

A Search for Stars of Very Low Metal Abundance. IV. *uvbyCa* Observations of Metal-Weak Candidates from the Northern HK Survey

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ABSTRACT

CCD photometry on the *uvbyCa* system has been obtained for 521 candidate metal-poor stars from the northern hemisphere HK survey of Beers and colleagues. Reddening corrections, classifications of stars by luminosity class, and the derivation of metal abundances based on Strömgen indices m_1 and hk are described and presented, along with preliminary spectroscopic estimates of abundance. A number of extremely metal-poor stars with $[\text{Fe}/\text{H}] \leq -2.50$ are identified.

Subject headings: stars: abundances — stars: Population II — techniques: photometric, spectroscopic

1. Introduction

A common goal of Galactic structure studies is to understand the events and processes that have characterized the formation and ongoing evolution of the Milky Way. Surviving relics of early star formation in the Galaxy offer particularly rich rewards, but these rewards only come as a result of relatively large observational effort. Clues from the first epochs

of star formation are scarce and challenging to decode, but they can be explored via examination of the stars of the halo field and in the populous globular clusters.

Over the past few decades, researchers have probed the spatial, kinematic and chemical distribution of the stars formed over the halo’s history. Since the seminal explorations of Eggen, Lynden-Bell, & Sandage (1962), the amount and quality of available data has grown to the point that a rather more complicated picture of the formation of the Galaxy than that based on a simple, rapid, collapse of a pre-Galactic spheroid of gas now applies (see, e.g., Chiba, Beers, & Yoshii 2000).

While the pioneering work of Eggen et al. focused on the properties of a kinematically selected sample of nearby stars, one must concede that, in many ways, Galactic globular clusters are ideally suited for mapping out this history. The advantages of the globular clusters are well documented in the literature. Each globular cluster, comprised of 10^5 to 10^6 stars which share a common age, distance, and (usually) chemical composition permits determination of these fundamental properties with minimized statistical errors. Furthermore, globular clusters are readily observable at distances from the Galactic center out to many tens of kiloparsecs. Relative ages, precise to 1 Gyr or better, have been reported for halo clusters (Sarajedini, Chaboyer, & Demarque 1997; Buonanno et al. 1998). The “merger model” for halo formation (Searle & Zinn 1978), as well as the existence of a thick disk population of Galactic globulars is supported by the kinematic and spatial distribution within the globular cluster population (Zinn 1993; Da Costa & Armandroff 1995).

There remains, however, one devastating weakness in the effort to reconstruct the history of Galactic evolution with globular cluster data alone – there exist no more than ~ 200 globulars in the Milky Way. Furthermore, there is no globular cluster located within one kpc of the Sun, thus restricting high-resolution stellar studies to the brighter giants, and requiring significant commitments of large telescope time. In addition, there are no known clusters with abundances below $[\text{Fe}/\text{H}] = -2.5$, in sharp contrast with the field star sample (Laird et al. 1988). The exceptionally metal-poor field stars, according to all models of Galactic nucleosynthesis, should probe the first generations of star formation within the protogalactic cloud. Thus, if one seeks to study the *earliest* phase of Galactic evolution, field stars offer the best option.

The picture that is now emerging from examination of nearly primordial stars is fascinating but puzzling. Abundances of the light elements seem well-described by the standard model of Big Bang nucleosynthesis (Olive & Steigman 1995; Ryan et al. 2000). For the heavier elements, stars with $[\text{Fe}/\text{H}] > -2.5$ have, within broad tolerances, well-defined patterns of abundance ratios at a given $[\text{Fe}/\text{H}]$, presumably reflecting their origin within a

reasonably well-mixed interstellar medium by the time these stars were formed (Wheeler, Sneden, & Truran 1989 ; Edvardsson et al. 1993 ; McWilliam et al. 1995 ; Ryan, Norris, & Beers 1996). Stars with $[\text{Fe}/\text{H}] < -2.5$ (McWilliam et al. 1995 ; Ryan et al. 1996) exhibit a more chaotic distribution in a number of their elemental ratios, which may be the earmark of an poorly-mixed early Galaxy. Recent attempts to model this apparently complex early history have centered on supernova-induced star formation and chemical evolution in individual proto-Galactic clouds (Tsujimoto, Shige-yama, & Yoshii 1999 and references therein).

Continued progress in this area is assured only if the sample of extremely metal-poor stars is expanded – by no means an easy task given that such stars make up a tiny fraction of the already sparsely populated halo component among stars in the solar neighborhood. Early attempts based upon objective-prism spectroscopy (Bond 1980; Bidelman & MacConnell 1973) generated only a handful of stars which proved to exhibit metal abundances near $[\text{Fe}/\text{H}] \sim -3.0$. The most effective survey technique to date has been that developed by Beers, Preston, & Shectman (1985, hereafter BPS) in which the wide-field survey capability of a Schmidt telescope, used with an objective prism, is combined with a filter isolating the spectral region near the ultraviolet lines of singly ionized calcium. The strong H and K resonance lines of CaII should be visible in even the most metal-poor stars, so stars with nearly continuous spectra in this region are good candidates for extreme metal deficiency. Unfortunately, blended stellar images, high temperatures, and low surface gravity can also produce weak H and K lines, thus one requires medium-resolution spectroscopy and/or photometric follow-up to isolate the best candidates. For an example of how severe this winnowing process can be, one need only refer to the initial efforts of BPS. In their first attempt, plate material covering 1940 square degrees of sky was used to generate a list of 2000 candidate stars; from an initial subset of 450 candidates, roughly 30% proved to have $[\text{Fe}/\text{H}]$ below -2.0 , with only a few stars of extreme ($[\text{Fe}/\text{H}] < -3.5$) metal paucity being detected. Note, however, that prior to this study, only one star was known with an estimated metallicity near -4.0 and virtually every major analysis of the primordial halo over the past decade has included stars from the HK survey of Beers and colleagues. Beers (2000) discusses how the “effective yield” of such survey efforts can be improved, and points out that one can roughly double the efficiency of searches for stars with $[\text{Fe}/\text{H}] < -2.0$ by conducting a photometric pre-selection of candidate stars.

The HK survey has now been expanded to include a total of some 7000 square degrees in the both the northern and southern hemispheres (see Beers 1999 for a summary). Medium-resolution spectroscopic follow-up of the first portion of this expanded sample has been discussed by Beers et al. (1992b, hereafter BPS II). Photometric data for subsets of the long lists of candidates have been presented in Doinidis & Beers (1990,1991) , Preston,

Shectman, & Beers (1991), Beers et al. (1992a), Schuster et al. (1996, 1999), and Norris, Ryan, & Beers (1999).

In this paper we analyze *uvbyCa* CCD photometry for over 500 low metallicity candidates from the HK survey, the majority of which were selected from northern survey plates. Section 2 describes the photometric system and the detector; Section 3 describes the acquisition and processing of the CCD data. In Section 4 the photometric classification and reduction to the standard *uvbyCa* system are discussed. In Section 5 we describe estimates of the reddening corrections for these stars, and in Section 6 the derivation of $[\text{Fe}/\text{H}]$ from m_1 and hk indices is considered, along with a comparison to spectroscopically estimated abundances. Finally, Section 7 presents a summary of the principal results.

2. The Instrumental System

To estimate basic stellar parameters for our candidate metal-poor stars, we have developed an extension of the basic intermediate-band photometric system developed and described by Strömgren (1966). The original four *uvby* bandpasses have full-widths of 160 to 300 Å and central wavelengths ranging from 3520 to 5500 Å. The color index $(b - y)$ is primarily a temperature index. Two other indices are color differences; $m_1 = (v - b) - (b - y)$ is designed to quantify the effect of line-blanketing in the v bandpass, and $c_1 = (u - v) - (v - b)$ provides an estimate of surface gravity for spectral types A or later by measuring the change in continuum slope on either side of the Balmer jump. Magnitudes constructed from the y band are essentially indistinguishable from broad-band V measurements.

Although originally designed for warm stars of near-solar abundance, the *uvby* system has been successfully adapted and pushed to stars of lower metallicity and cooler surface temperatures. Bond (1980) presented one of the earliest applications of the *uvby* system to metal-poor red giants, showing that metallicity and gravity estimates were obtainable with reasonable accuracy. Subsequent work by Anthony-Twarog & Twarog (1994) provided a calibration of $[\text{Fe}/\text{H}]$ for giants based on their position in the $m_1, (b - y)$ plane, and also presented methodology by which one might determine foreground reddenings. Application of *uvby* photometry to very metal-poor dwarfs is exemplified by the work of Schuster & Nissen (1988).

The diminishing sensitivity of the m_1 index to changes in $[\text{Fe}/\text{H}]$ for metal-poor stars can be seen in the papers describing the calibration for F and G dwarfs (Schuster & Nissen 1989), and for late-type giants (Anthony-Twarog & Twarog 1994). This limitation at low

abundance was the primary motivation for the extension of the Strömberg system in the form of the *Ca* filter introduced and described by Anthony-Twarog et al. (1991). The *Ca* filter has a full width of less than 100 Å and includes the resonance lines of calcium in the near ultraviolet, lines that remain reasonably strong even in quite metal-poor stars. The *hk* index is constructed in a manner analogous to the m_1 index; $hk = (Ca - b) - (b - y)$. The catalog of Twarog & Anthony-Twarog (1995) lists *hk* indices, *V* magnitudes, and $(b - y)$ colors for nearly 2000 stars. A more recent paper (Anthony-Twarog & Twarog 1998) provides a revised metallicity calibration based on *hk* indices for metal-poor red giants.

Following the model for the development of the *uvby* photometry system, all of the studies cited above have been conducted with photoelectric detectors, with the associated restrictions on areal coverage and survey depth. Application of CCD detectors to this and other photometric systems has broken through these barriers. In the course of the present project, we employed the CCDPHOT system on the 0.9m telescope at Kitt Peak National Observatory. CCDPHOT is a real-time, IRAF/ICE-based CCD photometer described by Tody & Davis (1992), as well as in instrument manuals distributed by the National Optical Astronomy Observatories (NOAO).

CCDPHOT extracts photometric data from processed data frames, preserving only the photometric records for a limited number of stars from each frame. As the data are obtained in each filter, frames are corrected for overscan, bias, and flat-fielding. Aperture magnitudes are then extracted for up to three star positions – only the data relevant to the construction of aperture magnitudes are retained. At the end of a sequence of observations through the filters, or a series of such sequences, instrumental magnitudes are constructed for the targeted stars as observed in each filter, based on the cumulative flux and sky measurements.

During our multi-year campaign, the CCDPHOT system was outfitted with two different CCD detectors. Both chips were small (512 by 512 pixels) devices with an image scale of 0.77 arcsec/pixel; the first one was designated T5HA; it was replaced in late 1995 with a similar device called T5HC. The readout noise for both detectors was ~ 4 electrons/pixel. The primary difference between these two CCDs was that the quantum efficiency (QE) of T5HA declined steeply blueward of 4000 Å affecting measurements in the near ultraviolet, whereas the QE of T5HC was significantly flatter in this wavelength regime (see the comparison provided by Sarajedini et al. 1996).

3. Acquisition and Processing of Data

Measurements of photometric indices have both “internal” and “external” errors associated with them. With respect to internal error, or precision, there are the usual limitations imposed by photon statistics and by the stability of photometric conditions. Patient acquisition of sufficient photons to assign $\sim 2\%$ precision for a given magnitude measurement (> 2500 photons from the star alone) was achievable for nearly all the stars in the present sample; the more stringent limitation was that of stability or repeatability of photometric measurements. Our standard observing procedure was to run through the sequence of filters for each star at least twice; additional integrations were often added to achieve adequate photon statistics in the narrower or bluer filters. At the end of each night, the CCDPHOT software produces an instrumental magnitude for each filter and each star based on the accumulated photons in each bandpass. However, we modified the initial processing steps to examine the separate measurements in each sequence of observations for each star. Intercomparison of the measured magnitudes in each bandpass provides an estimate of the precision which was achieved, as estimated by the standard deviation of all repeat observations for a given star. In cases where only a single night’s data is available, this estimate of precision is the only one available.

Processing of each night’s data yielded a list of instrumental magnitudes and colors with errors that reflect the repeatability of the measurements. Using a few stars observed at different airmasses, extinction correction coefficients were determined for most individual nights. In some cases, extinction coefficients were adopted from one night, and applied to other nights in the same run. The values of the extinction coefficients were within nominal limits for Strömngren indices: k_y ranged from 0.11 to 0.20, with typical values of 0.15 ± 0.02 ; k_{b-y} ranged from 0.03 to 0.08; k_{m1} ranged from 0.06 to 0.09; k_{c1} from 0.12 to 0.16; k_{hk} from 0.11 to 0.14.

Where several consecutive nights of data were available, a master list of instrumental, airmass-corrected magnitudes and indices was constructed. This procedure parallels our treatment of photoelectric photometry data; indices are mapped by linear transformations, determined by stars in common among the nights, to remove the minor instrumental differences between nights. Average indices for each star are constructed from the transformed data, then the process is repeated in order to produce a master list of instrumental magnitudes and indices. Entries in Table 1 summarize the number of usable nights during each assigned run, and the dispersion about a linear fit of each night with respect to the master list of magnitudes and instrumental indices.

An identical procedure was carried out to place all of the runs on a common master system, using the repeated observations of standard stars to provide the link from one run to

the next. Indices from seven observing seasons between March 1995 through October 1997 were mapped and merged, using the final October 1997 run as the instrumental template. Table 2 summarizes the number of stars from each run in common with the master list, and the dispersions between the magnitudes and indices with respect to the master list.

For the ~ 450 stars with single observations, the errors indicating repeatability within a sequence of measurements may be summarized as follows: the typical standard deviations for V , $(b - y)$, m_1 , c_1 and hk measurements are 0.017, 0.028, 0.045, 0.066 and 0.046, respectively. If the most problematic stars are excluded from these means, for example, by clipping stars with standard deviations larger than three times these error statistics, the standard deviations drop to 0.012, 0.020, 0.032, 0.043 and 0.034. We conclude, therefore, that we have achieved 2% or better internal errors for V and $(b - y)$, and perhaps only slightly worse than this for the remaining indices.

In addition, there are 25 stars with measurements obtained during more than one run throughout the period of the observational follow-up. The standard deviations describing the consistency of measurements for V , $(b - y)$, m_1 , c_1 and hk for these stars are 0.011, 0.009, 0.016, 0.018 and 0.017. These errors are clearly smaller, which may indicate that our estimates of the precision based on repeatability of single-star observations are somewhat pessimistic.

4. Classification and Reduction to Standard System

Whatever the precision of the final instrumental photometry, the external error is limited by the transformation to standard indices V , $(b - y)$, m_1 , c_1 and hk . Selection of a set of standard stars and indices is a critical decision, especially for cooler stars, as the transformation equations are distinguishably different for stars of different luminosity class. An example of the necessary distinction between giants and dwarfs is discussed by Twarog & Anthony-Twarog (1995). Figure 1 of that paper illustrates the divergence in calibrated $(b - y)$ colors for cooler dwarfs and giants. The $(b - y)$ colors in that catalog are tied to the Olsen (1993) system for dwarfs and giants. The V magnitudes, $(b - y)$ colors and hk indices in the present study are tied to the 1995 catalog and transformation system.

It is generally necessary to make some preliminary distinction between luminosity classes before knowing which set of calibration equations to apply to program stars. Some classes of stars can be classified exclusively through their position in the pseudo-HR diagram plane of the c_1 , $(b - y)$ indices. Figure 1 of Pilachowski, Sneden & Booth (1993) shows this diagram for a variety of metal-poor star samples. The metal-poor giant branch is

readily apparent; stars with $(b - y) \leq 0.5$ and $c_1 \geq 0.4$ are separable as horizontal branch stars, while very cool dwarfs and bluer main sequence stars are easy to distinguish. For moderately metal-poor stars ($[\text{Fe}/\text{H}] \leq -1.5$), the position of the giant branch in this plane is fairly insensitive to metallicity. (Anthony-Twarog & Twarog 1994).

Separation into luminosity classes is less clear for F and G stars, where metal-poor giants and subgiants may overlay the $c_1, (b - y)$ positions for metal-rich dwarfs. Fortunately, the additional information from the m_1 index makes this separation possible. We used a rubric similar to Olsen’s (1993) scheme to classify stars into dwarf, giant and horizontal branch categories by referring to m_1 indices as well as the $c_1, (b - y)$ plane.

With luminosity classifications in place, the linear equations that relate instrumental indices to standard values were then determined. The Twarog & Anthony-Twarog (1995) catalog is the source for standardizing the V , $(b - y)$ and hk indices. The 84 cool giants and dwarfs bluer than $(b - y) = 0.42$ defined one set of equations; the linear relations between instrumental and standard values have dispersions of 0.013, 0.010 and 0.017 magnitudes for V , $(b - y)$ and hk , respectively. A modest color term of $0.056(b - y)_i$ is incorporated in the V calibration by its addition to the instrumental magnitude. The 38 dwarfs with $(b - y) \geq 0.42$ from the same catalog define the linear transformation for the cooler dwarfs, with dispersions about these linear fits of 0.011, 0.008 and 0.016 magnitudes, respectively. These linear equations are similar, with an identical color-term in the V calibration, but include a substantially shallower slope for the $(b - y)$ calibration for the dwarfs.

To maintain a link to photometric metallicity calibrations and reddening determinations for cool giants, the m_1 and c_1 indices for cool giants in Anthony-Twarog & Twarog (1994) were used to transform these indices for stars with instrumental c_1 indices indicating evolved stars. Indices for 39 cool giants define the linear transformations, with dispersions about the fitted lines of 0.017 magnitudes for m_1 and 0.023 magnitudes for c_1 . A substantial color term is incorporated in the relationship fitting standard c_1 indices to instrumental c_i indices augmented by $0.30 (b - y)_i$.

Photometric indices from Schuster & Nissen (1988) were used to transform the m_1 and c_1 indices for dwarfs. A break in the linear solutions was imposed at $(b - y) = 0.42$, with 49 standard stars bluer than this criterion and 46 stars redder. The dispersions about the linear fits of instrumental to standard m_1 and c_1 indices were 0.019 and 0.020 magnitudes for the warmer dwarfs, and 0.020 and 0.020 magnitudes, respectively, for the cooler dwarfs.

The 521 program stars were classified and calibrated through the appropriate set of linear relations. The resulting calibrated photometry is presented in Table 3. The first column lists the star name. Columns (2) and (3) list the 1950 epoch coordinates. The

Galactic longitude and latitude for each star are listed in columns (4) and (5). Columns (6)–(15) list the V magnitudes, and photometric indices $(b - y)$, m_1 , c_1 and hk and their associated formal errors, respectively. Column (16) indicates the number of photometric measurements made for each star.

Entries in Table 3 are, on the whole, restricted to include only those with indices within the index limits of the standard stars. These limits are approximately: $(b - y)$ between 0.0 and 1.0; m_1 between 0.0 and 0.7; c_1 between -0.05 and 0.8; hk between 0.3 and 1.7. Data for a few stars with exceptions to these limits are noted in the table by indices with a colon following the index value. Photometric index entries do not appear if the estimate errors exceed 0.1 for V or $(b - y)$, with an error threshold of 0.2 for the remaining three indices. Figure 1 summarizes the photometric errors for stars listed in Table 3.

A number of plates in the HK survey overlap with one another, hence there are several instances of candidates with multiple names. Table 4 summarizes the multiple identifications for the HK survey stars in our present sample.

We have been able to compare our photometry with the results from a number of other studies which included northern stars from the HK survey. There are 31 stars in common with the list published by BPS II and with photometry in Preston et al. (1991) and Beers et al. (1992a). We excluded three stars with highly discrepant magnitudes – CS 22949-0026, CS 22949-0025 and CS 22189-008 – and found a dispersion of about 0.04 magnitudes about a unit-slope relation between their V magnitudes and ours, with no significant offset. We were able to make a wider comparison of V , $(b - y)$, m_1 and c_1 but for a very small sample, using five stars in common with the primarily metal-poor turnoff sample studied by Schuster et al. (1996). Except for one highly discrepant c_1 value, that comparison also suggests that no significant offset in any of the indices V , $(b - y)$, m_1 or c_1 , exists but that a dispersion of 0.04 magnitudes pertains for all indices, rather larger than the scatter implied by our own comparisons of stars observed over more than one season.

Norris et al. (1999) have published UBV photometry for a number of stars in the northern HK survey, 133 of which are found in the present sample. Once again, a substantial number have magnitudes sufficiently discrepant to suggest that we observed different stars. A comparison of V magnitudes for the remaining 117 stars suggests a dispersion of ~ 0.04 magnitudes, with no significant offset or deviation from unit-slope. A new sample of Strömgren photometry for HK survey stars has been completed by Schuster et al. (1999). Comparison of 32 stars in common with their published sample indicates the following differences (in the sense Schuster et al. – KPNO): for V , 0.014 ± 0.024 , for $(b - y)$, -0.002 ± 0.022 , for m_1 , 0.003 ± 0.042 and for c_1 , 0.001 ± 0.056 . This is our largest multi-index comparison with an external source of photometry; the errors generally confirm

the less optimistic errors discussed in Section 3 that were based on the repeatability of flux measurements. We indicate the stars in Table 3 which may be mis-identifications, on the basis of the above comparisons, with an asterisk next to the star names.

Approximately 100 of our program stars have color indices bluer than $(b - y) = 0.25$ or redder than $(b - y) = 0.65$, placing these stars outside any available photometric metallicity calibrations. No further analysis has been attempted for these stars, with the exception of an examination of the bluest stars for potential white dwarf candidates. Five stars have $(b - y)$ and $(u - b)$ colors similar to DA white dwarfs in the compilation of Fontaine et al. (1985). These stars are BS 16090-0038, BS 16468-0013, CS 22171-0018, CS 22898-0026 and CS 31067-0025.

5. Reddening Corrections

Correcting for interstellar extinction poses a challenging intermediate step on the path toward photometric abundance estimates. One consequence of applying a significant reddening correction might be the re-classification of a star from an evolved, cool star to a warmer dwarf or horizontal-branch star. Equally important, reddening-corrected colors are essential for placing a star correctly in a photometric plane defined by indices influenced by chemical composition as well as stellar temperature. Photometric abundance estimates rely on the effect of line blanketing by metals on photometric bandpasses, but the strength of lines is also dependent on stellar temperature. In the photometric plane defined by a line-blanketed index and a temperature index, cooler stars may have m_1 or hk indices similar to those for warmer, more metal-rich stars. For this reason, an over correction for interstellar reddening will produce a photometric abundance estimate that is too large.

The scheme we have used to determine and apply interstellar reddening corrections is similar to that discussed by Anthony-Twarog & Twarog (1994) and Anthony-Twarog & Twarog (1998), in which reddening estimates for red giants had to be obtained prior to the derivation and revision of isometallicity lines in the m_1 , $(b - y)$ and hk , $(b - y)$ diagrams.

Many, but not all, of the stars in the present sample are located at high Galactic latitude, where one does not expect their indices to be greatly affected by interstellar reddening. We begin with an estimate of the reddening $E(B - V)$ provided by the Burstein & Heiles (1982) maps, which correlate H I column densities to optical extinction by dust as implied by counts of extragalactic sources. Estimates for most Galactic positions with $|b| \geq 10^\circ$ are available by examination of their published maps, or a by use of a FORTRAN program which interpolates to provide $E(B - V)$ estimates. For stars with latitudes above

$|b| = 30^\circ$, these estimates were applied in full to the star’s indices in the following amounts: $E(b - y) = 0.74 E(B - V)$, $A_V = 4.3 E(b - y)$, $E(c_1) = 0.2 E(b - y)$, $E(m_1) = -0.32E(b - y)$, and $E(hk) = -0.16E(b - y)$. These reddening relations are essentially those of Crawford & Mandwewala (1976) with the hk reddening discussed in Anthony-Twarog et al. (1991).

Stars initially classified as red giants were also examined by an iterative program that estimates metal abundance and the absolute magnitude implied for a given unreddened color estimate. This approach, discussed in Anthony-Twarog & Twarog (1994, 1998), provides a distance estimate for red giants with $-0.8 \leq [\text{Fe}/\text{H}] \leq -2.4$, based on the $M_V, (B - V)$ relations for giant branches compiled by Norris, Bessell, & Pickles (1985). If a red giant is nearer than the edge of the Galactic dust disk, $d = 125 \text{ pc}/\sin b$, its reddening is pro-rated in the same proportion as its distance relative to d . This correction was applied to a handful of red giants with latitudes between 10° and 30° above or below the Galactic plane.

A further check on the red giants’ reddening is provided by the use of the $c_0, (b - y)_0$ plane which, for giants with abundances below $[\text{Fe}/\text{H}] = -1.5$, is relatively insensitive to metallicity differences. Most stars classified as dwarfs were corrected by the full amount of reddening implied by their Galactic position, as were stars which appear to be horizontal branch stars, as it is not possible to place these evolved stars unambiguously in the $c_1, (b - y)$ plane. Exceptions are noted in Tables 5a–5c, which summarize unreddened indices and photometric abundance estimates for three classes of stars (see below).

6. Metallicity Estimates

Beers et al. (1999) describe the most recent calibration of their techniques for obtaining metallicity estimates of stars based on medium-resolution (1-2 Å) spectra and either measured or estimated broadband $(B - V)_0$ colors. They demonstrate that a combination of methods based on the variation of an optimized index which measures the strength of the CaII K line, and an Auto-Correlation Function (ACF) of the stellar spectrum, can produce abundance estimates which have external errors on the order of 0.15-0.20 dex over the complete range of metallicities expected in the stellar populations of the Galaxy, $-4.0 \leq [\text{Fe}/\text{H}] \leq 0.0$. As Beers et al. discuss, there are a number of iterative steps which are applied in order to arrive at a final estimate of stellar metallicity. In the case of the present application, we do not yet have measured ACFs for all of the stellar spectra of our program stars with available spectroscopy, so we base our spectroscopic estimates solely on the strength of the optimized CaII K index, which Beers et al refer to as KP . The estimate we obtain, $[\text{Fe}/\text{H}]_{K3}$ (adopting the Beers et al. nomenclature), is expected to be close to,

but not exactly the same as, the metallicity estimate which will be obtained once the full set of ACFs is available.

Photometric estimates of stellar abundance may be derived by comparison of reddening-corrected indices to calibrated isometallicity relations, or by means of calibrations obtained with respect to stars with spectroscopically measured metal abundance. Because of the wide range of stellar types included in the HK survey sample, a number of techniques have been employed. Most of the stars in our photometric sample have sufficient information to base an abundance estimate on the m_1 as well as hk index. Some stars, however, have colors or indices that place them outside the boundaries of the photometric standardization or one of the metallicity calibrations. Stars that are either too blue ($(b - y)_0 \leq 0.25$) or too red ($(b - y)_0 \geq 0.65$ for dwarfs, $(b - y)_0 \geq 0.90$ for giants) cannot be adequately treated by any of the photometric calibration schemes.

Which photometric index should work best for a given star? An overview of the complementary domains and sensitivities of the m_1 and hk indices can be gained by examination of indices generated by Soon et al. (1993) from model atmospheres for dwarfs and giants over a broad range of color. Figure 7 from their paper displays synthetic isometallicity curves for both index planes. Both indices, for example, exhibit diminished sensitivity for blue stars but the problem is more critical for m_1 and is worse for dwarfs than for giants. Some serious degeneracies in the isometallicity curves are predicted for the coolest stars, extending from high abundances over a range in $[\text{Fe}/\text{H}]$ that is broader for dwarfs than for giants. There are regions in temperature and $[\text{Fe}/\text{H}]$ where the sensitivity of m_1 and hk to $[\text{Fe}/\text{H}]$ variations are comparable, notably for metal-poor giants with $(b - y)$ colors between 0.6 and 0.8. For higher abundance dwarfs over a broad range of color, m_1 displays finer $[\text{Fe}/\text{H}]$ resolution than hk .

In addition to this rather rich palette of predicted sensitivities, the number of extremely metal-poor stars with high dispersion spectroscopic abundances is small, critically so below $[\text{Fe}/\text{H}] = -2.5$. A final issue is demonstrated by the relative positions of CD-38°245 and BD -18°5550 in most photometric planes, inverted with respect to their well-measured but very low $[\text{Fe}/\text{H}]$ values; this anomaly, commented on by Twarog & Anthony-Twarog (1991) and others, may be due to different abundances of nitrogen in these stars. These various complications make a predetermination of a preferable photometric metallicity index difficult for a heterogeneous population of stars.

6.1. Spectroscopic Abundances

Medium-resolution spectroscopy was obtained for the majority of our program stars with the 2.1m telescope at KPNO, using the Goldcam spectrograph. Details of the acquisition of this data are discussed in detail in Beers et al. (1999), and will not be repeated here. Measurements of the KP index were then used to obtain the metallicity estimate $[\text{Fe}/\text{H}]_{K3}$, following the procedures outlined in Beers et al.

Since it is our plan to compare the abundances obtained from the photometric and spectroscopic approaches, it was decided that the Strömgren $(b - y)_0$ colors for the program stars would be used to *predict* the appropriate broadband $(B - V)_0$ color that is used as one of the inputs for the metallicity estimation procedure, adopting the transformation used above, $(B - V)_0 = 1.35(b - y)_0$. Beers et al. (1999) discuss the means by which an estimate of a reddening corrected broadband $(B - V)_0$ color may be obtained from a correlation of the strength of the Balmer H- δ line based on medium-resolution spectroscopy. As a check, we have compared this estimated color with the predicted broadband colors obtained from the Strömgren data. For a number of stars, the agreement was less than ideal (differing from one another by more than 0.1 magnitudes), which might have a significant effect on the derived metallicity estimates. In Tables 5a–5c below, we have indicated the cases where this color discrepancy exists by appending a “:” following the derived spectroscopic abundance estimate.

6.2. Red Giants

Although the stars classified as giants are a minority ($\leq 15\%$ of the original photometric survey) in our sample, they have the advantage that two independent photometric calibrations can be applied which are securely rooted in homogeneous scales of spectroscopic abundances. A calibration using m_1 indices was derived by Anthony-Twarog & Twarog (1994) as part of a comprehensive effort to use Strömgren photometry to ascertain reddenings, distances, and metal abundance estimates for a sample of red giants. Self consistent estimates for all of these quantities are necessary steps in the development of a photometric calibration. Distances affect the foreground reddening estimates. Reddenings, in turn, affect the photometric metallicity estimates in the sense that larger reddening corrections generally lead to larger estimates of $[\text{Fe}/\text{H}]$. In Anthony-Twarog & Twarog (1994), isometallicity lines in the m_0 , $(b - y)_0$ plane were derived for 58 giants with abundances in the range $-2.7 \leq [\text{Fe}/\text{H}] \leq -1.0$. The photometry is consistent with the photometric system of Bond (1980) and the abundances are derived, as in Twarog & Anthony-Twarog (1991), from a variety of high-dispersion spectroscopic studies mapped to

a common system based on Gratton & Sneden (1988).

The same precepts were followed by Anthony-Twarog & Twarog (1998) to develop isometallicity lines in the hk_0 , $(b - y)_0$ plane. The catalog of homogeneously merged spectroscopic $[\text{Fe}/\text{H}]$ values was enlarged by addition of studies by Sneden et al. (1991) and Kraft et al. (1992), and others, as described in Anthony-Twarog & Twarog (1998). This calibrated plane yields $[\text{Fe}/\text{H}]$ estimates for red giants more metal-poor than $[\text{Fe}/\text{H}] = -1.0$ that are precise to ± 0.2 dex. The performance of the index declines for higher abundance giants over a wide range of color, as well as for the bluest stars. Satisfactory estimates of abundance for giants bluer than $(b - y)_0 = 0.3$ or redder than $(b - y)_0 = 0.9$ cannot be obtained from this approach.

Final photometric estimates of $[\text{Fe}/\text{H}]$ were obtained for each of our program stars identified as likely red giants using their colors, m_0 and hk_0 indices by interpolation between the isometallicity relations published by Anthony-Twarog & Twarog (1994) and Anthony-Twarog & Twarog (1998). The errors associated with each abundance estimate are based on the photometric error listed in Table 3, and the slope of the the isometallicity relationship. The contribution to the abundance error must, in principle, include the contribution of σ_{by} as well as the error in m_0 or hk_0 . A contribution was added in quadrature to account for the typical uncertainty in abundance associated with each calibration. These contributions to our estimated errors are 0.16 dex for abundances based on m_1 , and 0.20 dex for the hk -based abundances. We believe these errors to be conservative upper limits to the systematic error for each photometrically derived abundance.

Results for 63 program stars classified as red giants are presented in Table 5a. In this table, the first column lists the star identification. Columns (2)–(6) list the reddening-corrected photometric quantities for each star. The reddening estimate for each star, $E(b - y)$, is listed in column (7). Photometric estimates of abundance based on the reddening-corrected m_1 index, and its associated error, are listed in columns (8) and (9), respectively. Columns (10) and (11) list photometric abundance estimates and errors based on the reddening-corrected hk index. Columns (12) and (13) provide the spectroscopic estimates of metal abundance, and associated errors, obtained using the Beers et al. (1999) calibration. Metallicity estimates for stars which fall outside $[\text{Fe}/\text{H}]$ limits of the photometric calibrations are listed in the table as upper or lower limits. In cases where a photometric abundance estimate is missing altogether, it is because the associated error in $[\text{Fe}/\text{H}]$ implied by the photometry is larger than 1.0 dex.

Figure 2 shows a comparison of estimated abundances for the red giants with acceptable metallicity determinations from Table 5a. The one-to-one lines in the figures have endpoints that reflect the formal limits of the photometric calibrations, $-3.4 \leq [\text{Fe}/\text{H}]_{hk} \leq -0.5$ for

the hk -based calibration, and $-2.7 \leq [\text{Fe}/\text{H}]_{m_1} \leq -1.0$ for the calibration based on m_1 . These limits may explain, in part, the general tendency for the photometric abundances to appear too low for stars of moderate metal abundance ($[\text{Fe}/\text{H}]$ between -1.0 and -0.4) and for the apparent decline in sensitivity of the m_1 -based abundances below $[\text{Fe}/\text{H}] = -2.5$.

It should be noted that the two photometric abundance estimates are not entirely independent, as both are based on the same $(b - y)$ color. Furthermore, the high dispersion spectroscopic abundances upon which the two metallicity calibrations are based are essentially identical. The scatter between abundance estimates based on m_1 and on hk is approximately 0.35 dex. A slightly larger scatter, ~ 0.40 dex, is found between the photometric indices and the spectroscopic estimates. This level of scatter between the different methods is in accord with our expectations based on the individual errors obtained for each star.

6.3. Main Sequence Stars

The largest portion of our program sample ($\sim 55\%$ of the original sample) is comprised of stars classified as main sequence dwarfs based on their color and surface gravity indices. The primary calibration used to derive abundance estimates for F and G dwarfs from m_1 has been adopted from Schuster & Nissen (1989). The F-star calibration includes a term involving surface gravity through the c_1 index; both calibration equations incorporate several terms expressing linear and higher-order dependence on m_0 and $(b - y)_0$. The calibrations are limited to $[\text{Fe}/\text{H}]$ values between -3.5 and $+0.2$ for the F dwarfs, and between -2.6 and $+0.4$ for the G dwarfs. The spectroscopic basis for these calibrations is consistent with a scale that yields an abundance $[\text{Fe}/\text{H}] = +0.13$ for the stars in the Hyades open cluster.

Dwarfs were part of the original sample of stars used to define the hk index by Anthony-Twarog et al. (1991), but a thorough analysis of dwarfs for the purpose of deriving a metallicity calibration was not attempted at that time. A preliminary calibration was prepared for this purpose, based on photometric data for several dozen dwarfs with photometry in the Twarog & Anthony-Twarog (1995) catalog and with available high-dispersion spectroscopic abundances in the homogeneous catalog compiled by Anthony-Twarog & Twarog (1998) for the red giant calibration. It was apparent at the time that this sample of 50 stars was spread too thinly in abundance and color to provide an adequate outline of the $hk, (b - y)$ isometallicity lines. In particular, very few dwarfs with abundances between $[\text{Fe}/\text{H}] = -1.0$ and the abundance of the Hyades were available. Thus, the dwarf abundance calibration effort was postponed.

With access to the spectroscopic abundances for the nearly 300 dwarfs in our photometric sample based on the Beers et al. (1999) calibration, isometallicity lines were re-drawn using the $[\text{Fe}/\text{H}]_{K3}$ abundances as a homogeneous set of spectroscopic estimates. It must be noted, therefore, that ensuing comparisons between the hk -based photometric abundances for dwarfs and the $[\text{Fe}/\text{H}]_{K3}$ estimates are not independent. Provisional isometallicity lines for main sequence stars with $0.25 \leq (b - y)_0 \leq 0.45$ are drawn in Figure 3. Superposed on the isometallicity grid are the colors for 51 field dwarfs from the 1995 catalog with different symbols distinguishing stars with $[\text{Fe}/\text{H}]$ values as high as -1.0 . Three field stars with high dispersion spectroscopic abundances below $[\text{Fe}/\text{H}] = -2.5$ are noted in the figure: in order of increasing color these are BD+1°2341, G 64-12, and CS 22876-0032. The adopted spectroscopic abundances for these three field stars are -2.50 , -3.01 and -3.78 , respectively. A comparison of abundances for these 50 stars derived from the isometallicity lines with the spectroscopic values has a standard deviation of 0.27 dex.

With the reminder that the photometric abundance estimates based on m_1 and on hk are still linked through their common color, and that the dwarf abundances based on hk are now tied to the K3 spectroscopic abundances, Table 5b summarizes the reddening-corrected photometry information and abundances for stars with derivable abundances and associated errors, with column headings as for Table 5a. Schuster & Nissen (1989) estimate a statistical uncertainty of 0.16 dex for $[\text{Fe}/\text{H}]$ estimates based on m_1 for F and G dwarfs, which we have added in quadrature to the photometric error on the abundance estimate for the m_1 -derived abundances listed in Table 5b. Errors for the abundances based on hk indices include a quadratic contribution of 0.27 dex.

Figure 4 shows a comparison of the photometric and spectroscopic abundances detailed in Table 5b. In each panel, a line of unit slope has been drawn. The interdependence of the hk calibration on the $[\text{Fe}/\text{H}]_{K3}$ abundance scale is apparent in the lowest panel of Figure 4, although the correlation between these two indicators appears to soften at the most metal poor end. The dispersion about the line for 222 stars in common is approximately 0.4 dex. The upper panel of Figure 4 illustrates a comparable dispersion between the two photometric indicators for 162 stars in common. The observed correlation between the $[\text{Fe}/\text{H}]_{K3}$ abundances and those based on m_1 is reassuring, although the scatter appears somewhat larger.

Of the 289 stars with photometric abundances listed in Table 5b, 19 stars have hk_0 less than 0.2 and/or m_0 less than 0.0. Such low indices are fairly robust indicators of extreme metal paucity. For most of these stars, the low abundance limit of the m_0 -based $[\text{Fe}/\text{H}]$ calibration is violated. For seven stars, upper limits of -2.5 or -3.0 provide the strongest limit on $[\text{Fe}/\text{H}]$ that the hk_0 calibration can provide. Two stars exhibit clear

discrepancies between the various metal abundance indicators. BS 17438-0031 has a low m_0 index, too low for the photometric calibration to supply an $[\text{Fe}/\text{H}]$ estimate, but the hk_0 estimate of metallicity is consistent with the $[\text{Fe}/\text{H}]_{K3}$ abundance estimate. The low m_1 index for another star, BS 16924-0026, implies a low photometric metallicity estimate that is consistent with the $[\text{Fe}/\text{H}]_{K3}$ abundance, yet the hk index indicates a higher abundance. With the exclusion of these two stars, the hk -derived and the $[\text{Fe}/\text{H}]_{K3}$ abundances are consistent, with a scatter between them of roughly 0.45 dex, in identifying these 19 stars as extremely metal-poor. Four stars, BS 16922-0090, BS 17139-0018, BS 17448-0021 and CS 22189-0003, have photometric estimates of $[\text{Fe}/\text{H}]$ running from -2.4 to below -3.0 , but have no available spectroscopic abundance estimates.

6.4. Field Horizontal-Branch Candidates

A number of stars in our program sample are relatively blue ($(b - y)_0 \leq 0.40$) and have high c_0 indices, greater than 0.50 (in some cases, greater than 1.0), indicative of highly evolved or early-type stars with substantial foreground reddening. Although we discuss stars covering a large range in c_0 that lie within the color limits $0.2 \leq (b - y)_0 \leq 0.4$, more stringent criteria have been proposed by Gratton (1998) for the classification of field horizontal-branch (FHB) stars. In addition to restrictions $m_0 \leq 0.15$, and $0.4 \leq c_0 \leq 0.8$, Gratton suggested that FHB stars should lie within a band in the pseudo-HR diagram extending upwards by 0.3 magnitudes in c_0 from a line joining $(b - y)_0 = 0.2$, $c_0 = 0.7$ to $(b - y)_0 = 0.4$, $c_0 = 0.3$. Stars meeting this tighter criterion are considered candidate FHB stars in the following.

While there is not a calibration in place for horizontal-branch stars in the hk system, we have adapted a calibration derived by Baird (1999) based on spectroscopic and photometric observations of RR Lyrae stars of known metallicity. Baird’s work demonstrated the relative phase invariance of loci traced by RR Lyrae’s in the $hk_0, (b - y)_0$ diagram. This calibration is shown in Figure 5 by dashed lines in the region appropriate for FHB stars. The calibration lines from Anthony-Twarog & Twarog (1998) for red giants are also shown in this diagram along with red giants from the present study.

Table 5c summarizes photometric abundances derived from the position in the $hk_0, (b - y)_0$ plane of our program stars classified as FHB and other high- c_0 stars. Due to the limited range in $[\text{Fe}/\text{H}]$ for this preliminary calibration, a number of stars are listed with only upper or lower limits for $[\text{Fe}/\text{H}]$. The table is segregated into groups conforming to Gratton’s suggested photometric criteria for FHB stars (the first 25 stars) and an additional 23 stars with generally higher c_0 indices.

7. Conclusions

A subset of the extensive HK survey of candidate metal-poor stars has been studied with extended Strömberg photometry and medium-resolution spectroscopy. Photometry for 521 candidate stars formed the basis for analysis of foreground reddenings, luminosity classification and metallicity estimates based on m_1 and hk indices. Although a number of stars were outside calibrated color and index limits, and others would exceed the metallicity limits of the photometric calibrations, photometric abundances for 63 red giants, 289 dwarfs and 48 blue horizontal branch stars have been estimated and compared to abundances based on spectroscopic analysis of the Ca II K line.

Among the red giants, nearly a third of the candidates appear to have metal abundances below $[\text{Fe}/\text{H}] = -2.5$ and a handful may have abundances below $[\text{Fe}/\text{H}] = -3.0$. This class of stars is favored with two well-developed photometric calibrations for metallicity based on both m_1 and hk . A preliminary calibration developed by Baird (1999) for RR Lyrae stars has been applied to the hk indices and $(b - y)$ colors for the FHB candidate stars, identifying two of these candidates as having abundances below $[\text{Fe}/\text{H}] = -3.0$.

Although photometric calibrations for main sequence stars based on m_1 are well established, a preliminary calibration for metal-poor dwarfs based on hk indices was developed for the present investigation that is tied to the medium-resolution abundances based on the K line. In part because the photometric calibrations do not extend to uniformly extreme low values of $[\text{Fe}/\text{H}]$, the yield of extreme candidates from this unevolved population is somewhat lower, with approximately 30 stars having one or both photometric abundances below $[\text{Fe}/\text{H}] = -2.5$. Approximately 20 stars have photometric indices indicative of more extreme metal-paucity.

We close by presenting in Table 6 an abridged list of identifications, equatorial coordinates, V and $(b - y)$ along with luminosity classification, an averaged photometric abundance estimate and the $[\text{Fe}/\text{H}]_{K3}$ abundance estimate. These 42 stars fit the following criteria: any of the two or three methods implying $[\text{Fe}/\text{H}] \leq -3.0$; an estimate of $[\text{Fe}/\text{H}] \leq -2.5$ that is the only abundance estimate available; two of three abundance estimates below $[\text{Fe}/\text{H}] = -2.5$.

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Fig. 1.— Instrumental errors for photometric colors and indices for 521 program stars, as a function of V magnitude.

Fig. 2.— Intercomparison of $[\text{Fe}/\text{H}]$ determinations for red giants by spectroscopic methods (K3) and photometric methods, based on m_1 and hk indices.

Fig. 3.— Preliminary isometallicity lines in the $hk_0, (b - y)_0$ plane for main sequence stars. The abundance scale is tied to the K3 abundances for the program stars discussed in this paper. A number of field dwarfs with high dispersion spectroscopic abundances are projected on the isometallicity grid for comparison.

Fig. 4.— Intercomparison of $[\text{Fe}/\text{H}]$ determinations for main sequence stars by spectroscopic methods (K3) and photometric methods, based on m_1 and hk indices.

Fig. 5.— Candidate red giants, horizontal branch stars and other blue stars with high c_0 . Filled squares indicate stars which satisfy color and surface gravity criteria as horizontal branch stars; triangles are used for stars classified as red giants. The calibration of Anthony-Twarog & Twarog (1998) is shown for the red giants; a preliminary calibration developed by Baird (1999) for RR Lyrae stars, is employed for the bluer stars.

TABLE 1. Summary Information of Photometric Runs

| Observ. Dates | Number of Nights | Dispersion about linear fits to master star lists | | | | |
|-----------------------------|------------------|---|-------------|-------------|-------------|-------------|
| | | V | $(b - y)$ | m_1 | c_1 | hk |
| March/April 1995 | 5 | 0.004-0.014 | 0.005-0.009 | 0.006-0.014 | 0.008-0.017 | 0.006-0.011 |
| October 1995 | 4 | 0.008-0.011 | 0.003-0.006 | 0.005-0.009 | 0.008-0.012 | 0.005-0.008 |
| November 1995 | 4 | 0.013-0.020 | 0.004-0.006 | 0.004-0.008 | 0.008-0.010 | 0.005-0.007 |
| May 1996 | 6 | 0.009-0.024 | 0.004-0.007 | 0.006-0.009 | 0.006-0.014 | 0.006-0.009 |
| November 1996/ January 1997 | 3 | 0.004-0.009 | 0.004-0.007 | 0.004-0.006 | 0.006-0.010 | 0.004-0.005 |
| February 1997 | 2 | 0.008 | 0.008 | 0.010 | 0.005 | 0.013 |
| October 1997 | 8 | 0.008-0.030 | 0.004-0.008 | 0.003-0.016 | 0.003-0.018 | 0.006-0.010 |

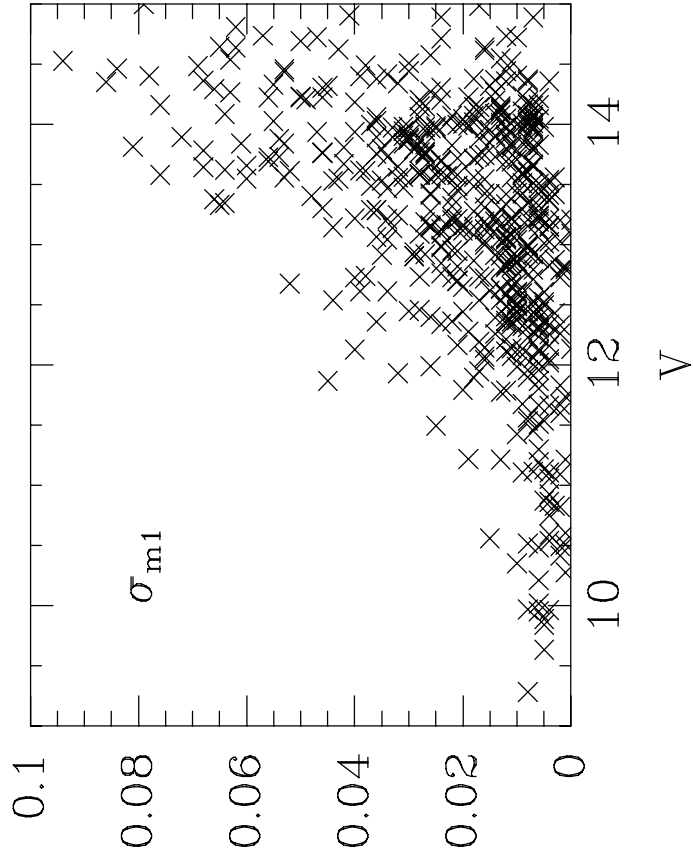
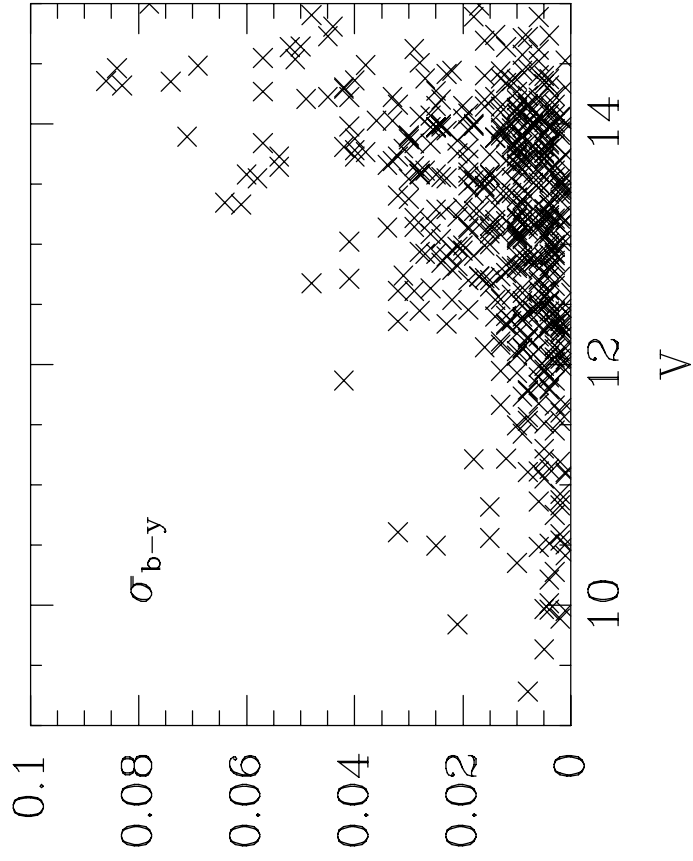
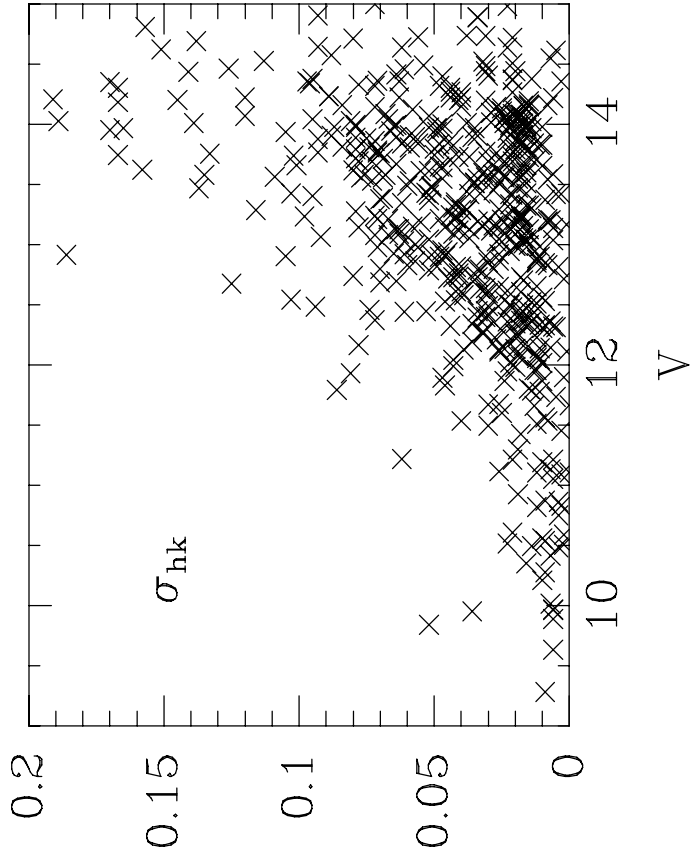
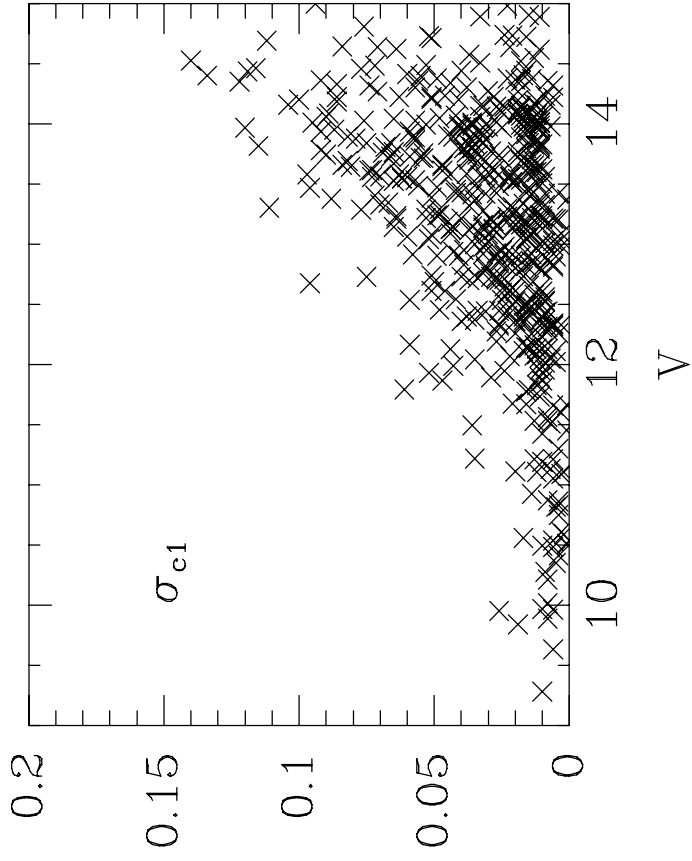


TABLE 2. Summary of Information Describing Mapping of Photometric Runs

| Observ. Dates | Number of Stars in Common with Master List | Standard Deviation for map of index: | | | | |
|----------------------------|--|--------------------------------------|-----------|-------|-------|-------|
| | | V | $(b - y)$ | m_1 | c_1 | hk |
| March/April 1995 | 41 | 0.014 | 0.015 | 0.011 | 0.013 | 0.013 |
| October 1995 | 39 | 0.012 | 0.007 | 0.007 | 0.012 | 0.010 |
| November 1995 | 43 | 0.019 | 0.006 | 0.009 | 0.029 | 0.033 |
| May 1996 | 45 | 0.008 | 0.001 | 0.008 | 0.012 | 0.009 |
| November 1996/January 1997 | 27 | 0.016 | 0.011 | 0.014 | 0.017 | 0.016 |
| February 1997 | 18 | 0.022 | 0.016 | 0.025 | 0.016 | 0.025 |
| October 1997 | 59 | 0.018 | 0.011 | 0.027 | 0.017 | 0.029 |

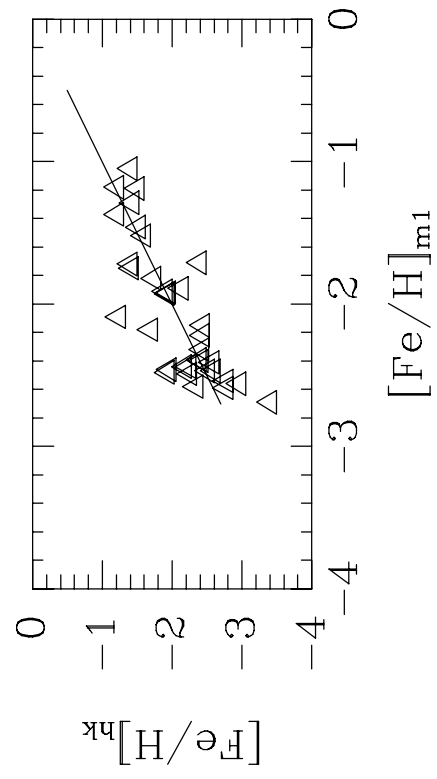
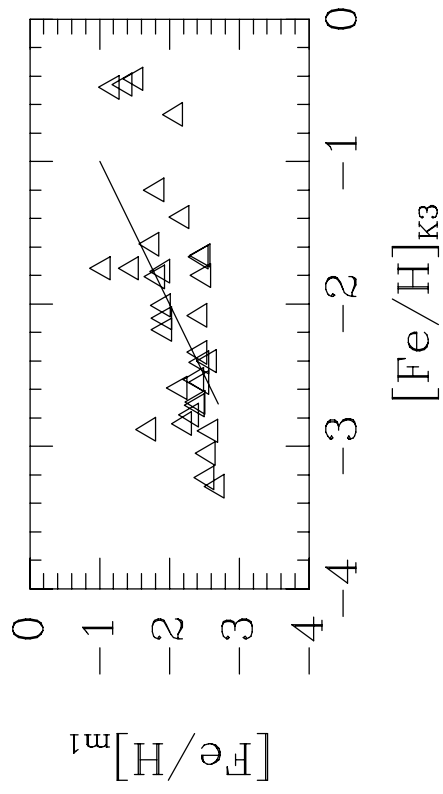
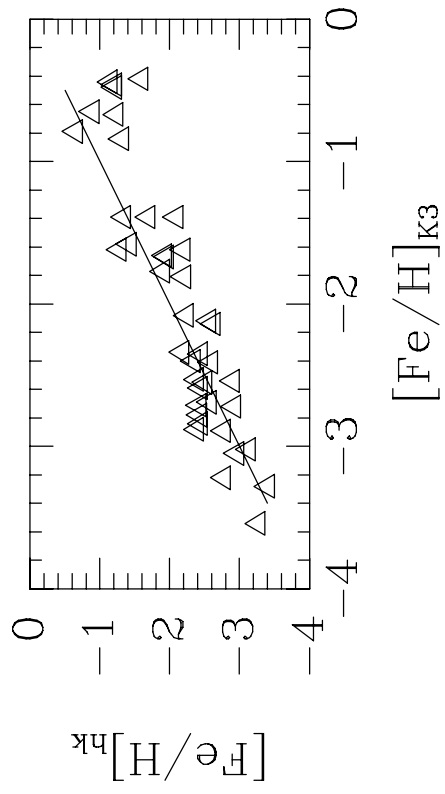


TABLE 3. Observed Photometric Indices for the Program Sample

| BPS ID (1) | RA (1950) (2) | DEC (3) | l (4) | b (5) | V (6) | σ_V (7) | $b-y$ (8) | σ_{by} (9) | m_1 (10) | σ_{m_1} (11) | c_1 (12) | σ_{c_1} (13) | hk (14) | σ_{hk} (15) |
|-----------------|------------------|------------|------------|------------|------------|-------------------|--------------|----------------------|---------------|------------------------|---------------|------------------------|--------------|-----------------------|
| BS 15620-0037 | 15 03 02.5 | +45 51 34 | 76.9 | 57.8 | 13.969 | 0.004 | 0.325 | 0.007 | 0.115 | 0.012 | 0.278 | 0.016 | 0.329 | 0.01 |
| BS 15621-0070 | 10 19 07.9 | +27 26 28 | 204.1 | 56.9 | 12.656 | 0.003 | 0.245 | 0.011 | 0.117 | 0.015 | 0.547 | 0.012 | 0.357 | 0.01 |
| BS 15624-0040 | 16 15 27.3 | +46 11 08 | 72.2 | 45.5 | 13.541 | 0.030 | 0.330 | 0.016 | 0.075 | 0.019 | 0.243 | 0.008 | 0.273 | 0.01 |
| BS 15624-0067 * | 16 27 29.0 | +45 09 29 | 70.5 | 43.5 | 13.088 | 0.015 | 0.415 | 0.000 | 0.039 | 0.003 | 0.242 | 0.024 | 0.243 | 0.00 |
| BS 15625-0006 * | 11 44 44.4 | +23 54 52 | 222.9 | 75.1 | 13.714 | 0.007 | 0.365 | 0.018 | 0.068 | 0.054 | 0.369 | 0.069 | 0.378 | 0.01 |
| BS 15625-0026 | 11 49 14.9 | +26 38 37 | 212.8 | 76.7 | 11.052 | 0.005 | 0.185 | 0.004 | 0.171 | 0.006 | 0.833 | 0.006 | 0.410 | 0.00 |
| BS 15625-0030 | 11 58 54.5 | +25 14 51 | 221.0 | 78.6 | 11.659 | 0.003 | 0.769 | 0.004 | 0.737 | 0.006 | 0.057 | 0.013 | 1.503 | 0.01 |
| BS 15625-0945 | 11 51 24.0 | +25 31 53 | 218.0 | 77.0 | 12.814 | 0.011 | 0.394 | 0.001 | 0.116 | 0.006 | 0.332 | 0.004 | 0.539 | 0.01 |
| BS 16022-0034 | 12 16 32.1 | +25 47 38 | 223.6 | 82.6 | 12.112 | 0.010 | 0.451 | 0.006 | 0.016 | 0.005 | 0.231 | 0.001 | 0.229 | 0.01 |
| BS 16023-0022 | 13 53 12.7 | +24 57 11 | 27.0 | 75.4 | 14.731 | 0.004 | 0.357 | 0.012 | 0.123 | 0.021 | 0.127 | 0.031 | 0.359 | 0.01 |
| BS 16023-0046 | 13 58 35.0 | +23 01 17 | 21.3 | 73.7 | 14.230 | 0.003 | 0.262 | 0.050 | 0.051 | 0.046 | 0.371 | 0.089 | 0.192 | 0.01 |
| BS 16026-0018 | 12 17 38.6 | +29 01 06 | 198.0 | 82.9 | 13.911 | 0.009 | 0.335 | 0.012 | 0.092 | 0.016 | 0.270 | 0.017 | 0.303 | 0.01 |
| BS 16026-0019 | 12 15 46.9 | +30 09 39 | 190.3 | 82.2 | 14.219 | 0.006 | 0.382 | 0.006 | 0.065 | 0.006 | 0.206 | 0.006 | 0.306 | 0.00 |
| BS 16026-0044 | 12 28 38.6 | +27 45 34 | 207.3 | 85.5 | 14.132 | 0.010 | 0.360 | 0.013 | 0.192 | 0.018 | 0.252 | 0.025 | 0.569 | 0.01 |
| BS 16026-0046 | 12 31 31.3 | +28 13 29 | 199.9 | 86.0 | 14.026 | 0.006 | 0.337 | 0.008 | 0.065 | 0.012 | 0.342 | 0.014 | 0.284 | 0.01 |
| BS 16026-0060 | 12 33 26.8 | +31 58 40 | 158.5 | 84.3 | 14.267 | 0.010 | 0.430 | 0.014 | 0.115 | 0.019 | 0.055 | 0.021 | 0.327 | 0.01 |
| BS 16026-0068 | 12 34 11.4 | +27 44 59 | 206.1 | 86.7 | 10.865 | 0.006 | 0.334 | 0.004 | 0.056 | 0.004 | 0.321 | 0.004 | 0.236 | 0.00 |
| BS 16027-0049 * | 13 10 05.2 | +30 37 10 | 69.2 | 84.4 | 13.043 | 0.024 | 0.233 | 0.034 | 0.049 | 0.052 | 1.00: | 0.052 | 0.198 | 0.01 |
| BS 16031-0011 | 12 24 21.2 | +26 36 46 | 219.8 | 84.5 | 13.996 | 0.024 | 0.366 | 0.010 | 0.107 | 0.016 | 0.292 | 0.016 | 0.365 | 0.01 |
| BS 16032-0001 | 12 36 18.9 | +32 37 28 | 150.0 | 84.1 | 13.470 | 0.006 | 0.356 | 0.006 | 0.088 | 0.015 | 0.315 | 0.019 | 0.409 | 0.01 |
| BS 16032-0002 | 12 36 32.8 | +32 38 04 | 149.5 | 84.1 | 13.009 | 0.004 | 0.492 | 0.005 | 0.398 | 0.009 | 0.322 | 0.017 | 0.944 | 0.01 |
| BS 16032-0003 | 12 36 53.1 | +32 38 31 | 148.8 | 84.1 | 14.222 | 0.014 | 0.449 | 0.019 | 0.296 | 0.028 | 0.279 | 0.044 | 0.835 | 0.01 |
| BS 16032-0012 | 12 38 36.0 | +30 27 15 | 159.1 | 86.2 | 14.364 | 0.010 | 0.341 | 0.014 | 0.125 | 0.020 | 0.369 | 0.021 | 0.459 | 0.01 |
| BS 16032-0033 | 12 46 14.0 | +32 23 52 | 129.7 | 85.0 | 14.719 | 0.008 | 0.337 | 0.010 | 0.094 | 0.016 | 0.170 | 0.021 | 0.319 | 0.01 |
| BS 16032-0038 | 12 49 15.2 | +29 35 26 | 121.6 | 87.8 | 13.237 | 0.004 | 0.600 | 0.006 | 0.266 | 0.011 | 0.388 | 0.018 | 0.876 | 0.01 |
| BS 16032-0081 | 12 42 20.1 | +32 48 20 | 137.5 | 84.4 | 14.011 | 0.007 | 0.356 | 0.013 | 0.151 | 0.011 | 0.333 | 0.024 | 0.533 | 0.01 |
| BS 16033-0081 | 13 16 48.0 | +22 43 42 | 357.9 | 82.2 | 13.370 | 0.009 | 0.550 | 0.004 | 0.097 | 0.001 | 0.375 | 0.009 | 0.421 | 0.01 |
| BS 16033-0105 | 13 23 12.9 | +25 47 37 | 23.1 | 82.2 | 12.729 | 0.017 | 0.270 | 0.022 | 0.081 | 0.027 | 0.484 | 0.018 | 0.307 | 0.01 |
| BS 16076-0006 * | 12 45 54.2 | +21 13 02 | 296.3 | 83.8 | 13.556 | 0.001 | 0.424 | 0.011 | 0.049 | 0.022 | 0.730 | 0.031 | 0.246 | 0.01 |
| BS 16076-0040 * | 12 54 47.9 | +22 49 28 | 319.3 | 85.2 | 12.135 | 0.001 | 0.338 | 0.000 | 0.043 | 0.012 | 0.275 | 0.024 | 0.223 | 0.00 |
| BS 16077-0007 * | 11 32 39.7 | +31 17 05 | 195.3 | 72.9 | 12.346 | 0.004 | 0.338 | 0.012 | -0.007 | 0.017 | 0.193 | 0.020 | 0.153 | 0.01 |
| BS 16077-0023 * | 11 37 29.0 | +31 03 59 | 195.5 | 74.0 | 12.445 | 0.028 | 0.322 | 0.030 | 0.032 | 0.034 | 0.331 | 0.053 | 0.222 | 0.01 |
| BS 16077-0047 | 11 44 27.6 | +32 02 22 | 190.8 | 75.3 | 14.400 | 0.016 | 0.464 | 0.078 | -0.16: | 0.134 | ... | ... | 0.042 | 0.17 |
| BS 16079-0005 | 15 41 37.8 | +59 17 04 | 92.4 | 46.6 | 11.666 | 0.013 | 0.195 | 0.006 | 0.140 | 0.001 | 0.771 | 0.000 | 0.342 | 0.00 |
| BS 16079-0019 | 15 45 40.8 | +60 14 41 | 93.3 | 45.7 | 14.142 | 0.013 | 0.312 | 0.018 | 0.073 | 0.027 | 0.320 | 0.027 | 0.211 | 0.01 |
| BS 16080-0052 | 16 38 52.6 | +61 06 04 | 91.2 | 39.3 | 13.424 | 0.011 | 0.336 | 0.016 | 0.157 | 0.027 | 0.381 | 0.033 | 0.557 | 0.01 |
| BS 16080-0054 | 16 38 37.9 | +61 03 29 | 91.2 | 39.4 | 12.789 | 0.022 | 0.564 | 0.002 | 0.063 | 0.010 | 0.474 | 0.052 | 0.374 | 0.01 |
| BS 16080-0061 | 16 42 11.2 | +60 40 48 | 90.6 | 39.0 | 13.580 | 0.025 | 0.396 | 0.025 | 0.097 | 0.044 | 0.333 | 0.068 | 0.476 | 0.01 |
| BS 16080-0062 | 16 40 32.7 | +60 45 11 | 90.7 | 39.2 | 14.007 | 0.001 | 0.406 | 0.023 | 0.193 | 0.036 | 0.216 | 0.038 | 0.587 | 0.01 |
| BS 16080-0096 | 16 51 10.1 | +58 08 19 | 87.1 | 38.4 | 13.293 | 0.007 | 0.391 | 0.013 | 0.209 | 0.023 | 0.322 | 0.038 | 0.627 | 0.01 |

TABLE 3. (continued)

| BPS ID (1) | RA (1950) (2) | DEC (3) | l (4) | b (5) | V (6) | σ_V (7) | $b-y$ (8) | σ_{by} (9) | m_1 (10) | σ_{m_1} (11) | c_1 (12) | σ_{c_1} (13) | hk (14) | σ_{hk} (15) |
|-----------------|------------------|------------|------------|------------|------------|-------------------|--------------|----------------------|---------------|------------------------|---------------|------------------------|--------------|-----------------------|
| BS 16080-0097 | 16 50 33.6 | +57 51 46 | 86.8 | 38.5 | 13.958 | 0.003 | 0.265 | 0.007 | 0.175 | 0.011 | 0.417 | 0.017 | 0.493 | 0.017 |
| BS 16080-0120 | 16 59 08.6 | +60 52 47 | 90.3 | 37.0 | 9.283 | 0.008 | 0.377 | 0.008 | 0.178 | 0.010 | 0.345 | 0.009 | 0.619 | 0.017 |
| BS 16081-0038 | 11 58 48.0 | +33 33 54 | 180.2 | 77.6 | 13.991 | 0.007 | 0.286 | 0.008 | 0.064 | 0.018 | 0.361 | 0.022 | 0.258 | 0.017 |
| BS 16082-0097 | 14 02 18.8 | +32 37 02 | 55.7 | 73.3 | 12.129 | 0.003 | 0.381 | 0.040 | -0.012 | 0.044 | 0.312 | 0.039 | 0.149 | 0.017 |
| BS 16083-0019 | 14 46 29.3 | +49 06 19 | 84.8 | 58.7 | 13.042 | 0.009 | 0.334 | 0.012 | 0.053 | 0.016 | 0.328 | 0.016 | 0.246 | 0.017 |
| BS 16083-0022 | 14 47 49.1 | +50 30 09 | 86.8 | 57.7 | 13.885 | 0.009 | 0.397 | 0.012 | 0.147 | 0.018 | 0.235 | 0.023 | 0.510 | 0.017 |
| BS 16083-0024 | 14 45 52.2 | +50 41 39 | 87.4 | 57.9 | 14.355 | 0.011 | 0.350 | 0.012 | 0.051 | 0.018 | 0.279 | 0.003 | 0.227 | 0.017 |
| BS 16083-0041 | 14 49 37.8 | +47 30 53 | 81.7 | 59.1 | 12.086 | 0.007 | 0.308 | 0.009 | 0.064 | 0.012 | 0.328 | 0.012 | 0.242 | 0.017 |
| BS 16083-0065 | 14 56 25.2 | +51 52 24 | 87.5 | 55.9 | 14.900 | 0.048 | 0.299 | 0.041 | 0.084 | 0.015 | 0.265 | 0.093 | 0.234 | 0.017 |
| BS 16083-0139 | 15 07 25.0 | +49 41 59 | 82.6 | 55.4 | 13.868 | 0.006 | 0.473 | 0.008 | 0.094 | 0.012 | 0.438 | 0.020 | 0.482 | 0.017 |
| BS 16083-0146 | 15 06 54.2 | +47 26 10 | 79.1 | 56.5 | 14.735 | 0.014 | 0.279 | 0.057 | 0.076 | 0.024 | 0.429 | 0.038 | 0.206 | 0.017 |
| BS 16083-0166 | 15 13 49.3 | +51 39 54 | 84.8 | 53.6 | 13.089 | 0.004 | 0.363 | 0.010 | 0.137 | 0.033 | 0.227 | 0.043 | 0.510 | 0.017 |
| BS 16083-0172 | 14 48 59.5 | +48 57 33 | 84.2 | 58.4 | 13.414 | 0.008 | 0.469 | 0.004 | 0.018 | 0.014 | 0.251 | 0.021 | 0.285 | 0.017 |
| BS 16084-0160 | 16 27 43.8 | +54 43 33 | 83.5 | 42.2 | 13.156 | 0.006 | 0.615 | 0.008 | 0.077 | 0.011 | 0.473 | 0.017 | 0.417 | 0.017 |
| BS 16085-0050 | 12 35 16.7 | +19 39 14 | 280.2 | 81.6 | 12.159 | 0.003 | 0.562 | 0.004 | 0.037 | 0.013 | 0.430 | 0.017 | 0.314 | 0.017 |
| BS 16088-0147 | 16 58 04.7 | +44 38 41 | 69.8 | 38.1 | 13.991 | 0.011 | 0.361 | 0.021 | 0.064 | 0.041 | 0.380 | 0.079 | 0.403 | 0.017 |
| BS 16088-0148 | 16 59 03.3 | +44 57 53 | 70.2 | 38.0 | 13.658 | 0.003 | 0.302 | 0.007 | 0.100 | 0.011 | 0.421 | 0.017 | 0.380 | 0.017 |
| BS 16089-0013 | 13 47 10.4 | +35 59 45 | 71.5 | 75.0 | 13.325 | 0.004 | 0.540 | 0.007 | 0.084 | 0.011 | 0.345 | 0.016 | 0.391 | 0.017 |
| BS 16089-0042 * | 13 51 26.6 | +35 01 18 | 66.6 | 74.7 | 14.316 | 0.083 | 0.324 | 0.015 | 0.045 | 0.006 | 0.745 | 0.048 | 0.247 | 0.017 |
| BS 16090-0027 | 14 22 46.3 | +50 51 32 | 92.3 | 60.6 | 13.977 | 0.009 | 0.383 | 0.012 | 0.191 | 0.017 | 0.284 | 0.019 | 0.570 | 0.017 |
| BS 16090-0033 | 14 25 17.6 | +50 31 48 | 91.2 | 60.5 | 13.728 | 0.010 | 0.344 | 0.014 | 0.136 | 0.019 | 0.322 | 0.021 | 0.489 | 0.017 |
| BS 16090-0038 | 14 28 34.2 | +49 04 56 | 88.3 | 61.1 | 13.136 | 0.034 | 0.115 | 0.033 | 0.109 | 0.032 | 0.226 | 0.006 | 0.260 | 0.017 |
| BS 16090-0048 | 14 29 46.5 | +52 17 01 | 92.8 | 58.8 | 14.096 | 0.013 | 0.324 | 0.017 | 0.135 | 0.025 | 0.265 | 0.029 | 0.322 | 0.017 |
| BS 16090-0049 | 14 27 42.8 | +52 56 12 | 94.1 | 58.6 | 14.113 | 0.010 | 0.371 | 0.013 | 0.131 | 0.019 | 0.291 | 0.020 | 0.462 | 0.017 |
| BS 16090-0057 | 14 31 35.3 | +51 55 05 | 91.9 | 58.9 | 14.003 | 0.007 | 0.350 | 0.009 | 0.118 | 0.013 | 0.412 | 0.017 | 0.512 | 0.017 |
| BS 16090-0080 | 14 42 34.0 | +50 20 55 | 87.5 | 58.5 | 13.965 | 0.007 | 0.348 | 0.009 | 0.021 | 0.012 | 0.362 | 0.014 | 0.214 | 0.017 |
| BS 16467-0062 | 13 39 36.1 | +18 03 40 | 356.9 | 75.1 | 14.025 | 0.036 | 0.480 | 0.055 | -0.060 | 0.076 | 0.222 | 0.189 | 0.201 | 0.017 |
| BS 16468-0008 | 08 59 29.8 | +40 57 50 | 181.2 | 41.5 | 13.688 | 0.008 | 0.394 | 0.011 | 0.189 | 0.016 | 0.325 | 0.024 | 0.554 | 0.017 |
| BS 16468-0013 | 09 00 06.7 | +40 02 54 | 182.4 | 41.6 | 12.848 | 0.007 | 0.220 | 0.010 | 0.018 | 0.013 | -0.18: | 0.012 | 0.076 | 0.017 |
| BS 16468-0025 | 09 02 17.8 | +40 38 41 | 181.6 | 42.1 | 12.640 | 0.009 | 0.716 | 0.013 | 0.774 | 0.021 | 0.107 | 0.031 | 1.479 | 0.017 |
| BS 16468-0029 | 09 03 04.1 | +41 34 35 | 180.4 | 42.2 | 13.326 | 0.004 | 0.327 | 0.006 | 0.120 | 0.009 | 0.343 | 0.015 | 0.444 | 0.017 |
| BS 16468-0034 | 09 06 47.2 | +41 28 27 | 180.5 | 42.9 | 13.419 | 0.002 | 0.336 | 0.003 | 0.143 | 0.004 | 0.338 | 0.005 | 0.480 | 0.017 |
| BS 16468-0040 | 09 04 59.8 | +39 22 05 | 183.4 | 42.5 | 13.596 | 0.007 | 0.258 | 0.009 | 0.170 | 0.013 | 0.559 | 0.018 | 0.440 | 0.017 |
| BS 16468-0042 | 09 06 06.4 | +39 03 41 | 183.8 | 42.7 | 13.035 | 0.010 | 0.131 | 0.010 | 0.192 | 0.003 | 0.898 | 0.006 | 0.386 | 0.017 |
| BS 16468-0054 | 09 07 31.6 | +41 35 44 | 180.4 | 43.1 | 14.083 | 0.010 | 0.352 | 0.014 | 0.169 | 0.019 | 0.324 | 0.021 | 0.582 | 0.017 |
| BS 16470-0007 | 12 05 35.9 | +15 46 23 | 259.9 | 74.6 | 13.962 | 0.011 | 0.535 | 0.012 | 0.066 | 0.016 | 0.327 | 0.047 | 0.378 | 0.017 |
| BS 16470-0061 | 12 16 12.6 | +15 48 44 | 268.1 | 76.1 | 14.164 | 0.008 | 0.350 | 0.008 | 0.036 | 0.013 | 0.287 | 0.015 | 0.211 | 0.017 |
| BS 16472-0018 | 14 53 48.9 | +02 04 40 | 358.1 | 50.9 | 13.560 | 0.014 | 0.539 | 0.018 | 0.058 | 0.022 | 0.371 | 0.018 | 0.339 | 0.017 |
| BS 16473-0007 | 08 35 23.9 | +44 52 27 | 175.8 | 37.3 | 13.080 | 0.010 | 0.297 | 0.011 | 0.137 | 0.014 | 0.407 | 0.072 | 0.423 | 0.017 |
| BS 16473-0014 | 08 37 34.1 | +42 46 21 | 178.5 | 37.6 | 13.327 | 0.061 | 0.368 | 0.065 | 0.104 | 0.070 | 0.371 | 0.042 | 0.463 | 0.017 |

TABLE 3. (continued)

| BPS ID (1) | RA (1950) (2) | DEC (3) | l (4) | b (5) | V (6) | σ_V (7) | $b-y$ (8) | σ_{by} (9) | m_1 (10) | σ_{m_1} (11) | c_1 (12) | σ_{c_1} (13) | hk (14) | σ_{hk} (15) |
|-----------------|------------------|------------|------------|------------|------------|-------------------|--------------|----------------------|---------------|------------------------|---------------|------------------------|--------------|-----------------------|
| BS 16473-0019 | 08 39 35.7 | +44 58 18 | 175.8 | 38.1 | 12.441 | 0.004 | 0.373 | 0.020 | 0.080 | 0.031 | 0.383 | 0.061 | 0.372 | 0.031 |
| BS 16473-0025 | 08 39 54.3 | +46 17 43 | 174.1 | 38.2 | 12.919 | 0.027 | 0.276 | 0.027 | 0.229 | 0.032 | 0.361 | 0.061 | 0.426 | 0.031 |
| BS 16473-0033 | 08 41 53.0 | +45 42 07 | 174.8 | 38.5 | 13.586 | 0.028 | 0.345 | 0.028 | 0.167 | 0.038 | ... | ... | 0.507 | 0.031 |
| BS 16473-0041 | 08 44 52.6 | +43 06 12 | 178.2 | 38.9 | 13.578 | 0.060 | 0.393 | 0.076 | 0.098 | 0.097 | 0.324 | 0.076 | 0.489 | 0.031 |
| BS 16473-0044 | 08 44 58.5 | +44 53 33 | 175.9 | 39.0 | 13.415 | 0.015 | 0.355 | 0.026 | 0.107 | 0.036 | 0.416 | 0.052 | 0.454 | 0.031 |
| BS 16473-0059 | 08 48 03.7 | +45 26 28 | 175.2 | 39.6 | 13.892 | 0.030 | 0.312 | 0.036 | 0.097 | 0.043 | 0.437 | 0.036 | 0.442 | 0.031 |
| BS 16473-0062 | 08 47 36.1 | +43 49 55 | 177.3 | 39.5 | 13.125 | 0.015 | 0.433 | 0.015 | 0.278 | 0.028 | 0.306 | 0.037 | 0.843 | 0.031 |
| BS 16473-0068 | 08 51 10.6 | +42 49 07 | 178.6 | 40.1 | 13.545 | 0.058 | 0.362 | 0.060 | 0.129 | 0.062 | 0.353 | 0.019 | ... | ... |
| BS 16473-0072 | 08 50 48.2 | +43 36 46 | 177.6 | 40.0 | 13.062 | 0.005 | 0.277 | 0.036 | 0.136 | 0.060 | 0.605 | 0.092 | 0.392 | 0.031 |
| BS 16473-0080 | 08 49 10.0 | +46 17 28 | 174.1 | 39.8 | 14.141 | 0.016 | 0.496 | 0.017 | 0.077 | 0.024 | 0.496 | 0.072 | 0.651 | 0.031 |
| BS 16473-0096 | 08 57 17.8 | +45 33 58 | 175.0 | 41.2 | 12.446 | 0.003 | 0.313 | 0.010 | 0.149 | 0.026 | 0.404 | 0.034 | 0.446 | 0.031 |
| BS 16473-0097 | 08 55 54.9 | +46 45 31 | 173.5 | 40.9 | 13.403 | 0.032 | 0.416 | 0.048 | -0.027 | 0.072 | 0.417 | 0.095 | 0.295 | 0.031 |
| BS 16473-0109 | 08 59 57.5 | +43 37 00 | 177.6 | 41.7 | 13.233 | 0.002 | 0.408 | 0.014 | 0.068 | 0.064 | 0.325 | 0.098 | 0.516 | 0.031 |
| BS 16474-0093 | 10 41 31.6 | +37 29 04 | 184.2 | 61.4 | 12.611 | 0.032 | 0.395 | 0.034 | 0.067 | 0.046 | ... | ... | 0.348 | 0.031 |
| BS 16477-0003 | 14 30 28.2 | +06 59 16 | 357.4 | 58.5 | 14.194 | 0.010 | 0.558 | 0.014 | 0.047 | 0.019 | 0.324 | 0.031 | 0.263 | 0.031 |
| BS 16477-0013 | 14 33 35.4 | +03 52 53 | 354.3 | 55.7 | 14.079 | 0.004 | 0.346 | 0.007 | 0.071 | 0.012 | 0.278 | 0.018 | 0.266 | 0.031 |
| BS 16477-0026 | 14 34 42.5 | +02 59 20 | 353.6 | 54.9 | 14.884 | 0.006 | 0.284 | 0.007 | 0.064 | 0.011 | 1.49: | 0.034 | 0.190 | 0.031 |
| BS 16477-0038 | 14 37 57.9 | +07 08 42 | 359.9 | 57.2 | 12.701 | 0.015 | 0.491 | 0.021 | 0.065 | 0.026 | 0.454 | 0.017 | 0.357 | 0.031 |
| BS 16478-0029 | 10 56 55.5 | +40 46 21 | 175.6 | 63.4 | 13.558 | 0.003 | 0.440 | 0.003 | 0.191 | 0.009 | 0.213 | 0.024 | 0.679 | 0.031 |
| BS 16479-0015 | 13 13 00.6 | +22 58 17 | 355.1 | 83.0 | 13.345 | 0.064 | 0.312 | 0.064 | 0.094 | 0.067 | 0.304 | 0.062 | 0.331 | 0.031 |
| BS 16479-0037 | 13 17 07.1 | +21 59 14 | 354.2 | 81.6 | 13.944 | 0.019 | 0.362 | 0.027 | 0.157 | 0.033 | 0.100 | 0.023 | 0.371 | 0.031 |
| BS 16541-0022 | 15 16 00.6 | +08 34 00 | 11.6 | 50.5 | 13.890 | 0.012 | 0.291 | 0.033 | 0.087 | 0.058 | 0.449 | 0.064 | 0.296 | 0.031 |
| BS 16541-0052 | 15 21 59.4 | +06 38 35 | 10.4 | 48.2 | 12.613 | 0.029 | 0.235 | 0.039 | 0.058 | 0.051 | 0.96: | 0.042 | 0.188 | 0.031 |
| BS 16541-0073 | 15 24 14.4 | +09 09 01 | 14.0 | 49.1 | 14.011 | 0.003 | 0.346 | 0.007 | 0.011 | 0.011 | 0.340 | 0.018 | 0.217 | 0.031 |
| BS 16542-0004 | 16 19 40.7 | +22 31 57 | 39.4 | 42.3 | 13.453 | 0.002 | 0.559 | 0.021 | 0.385 | 0.042 | 0.306 | 0.028 | 0.922 | 0.031 |
| BS 16542-0104 | 16 34 30.3 | +20 50 52 | 38.7 | 38.6 | 13.294 | 0.005 | 0.503 | 0.009 | 0.295 | 0.015 | 0.295 | 0.026 | 0.818 | 0.031 |
| BS 16543-0057 | 13 18 05.4 | +22 38 59 | 358.8 | 81.9 | 14.289 | 0.042 | 0.381 | 0.066 | ... | ... | ... | ... | 0.042 | 0.031 |
| BS 16543-0068 | 13 16 21.9 | +19 30 16 | 342.9 | 79.9 | 12.058 | 0.003 | 0.357 | 0.007 | 0.041 | 0.011 | 0.272 | 0.012 | 0.246 | 0.031 |
| BS 16543-0092 | 13 22 56.9 | +19 45 23 | 350.3 | 79.1 | 14.157 | 0.032 | 0.666 | 0.076 | -0.15: | 0.104 | 0.720 | 0.084 | 0.229 | 0.031 |
| BS 16545-0005 | 10 59 07.7 | +38 33 06 | 180.0 | 64.5 | 12.886 | 0.005 | 0.352 | 0.006 | 0.072 | 0.009 | 0.464 | 0.012 | 0.427 | 0.031 |
| BS 16545-0024 | 11 01 40.3 | +38 28 40 | 179.8 | 65.0 | 12.988 | 0.016 | 0.343 | 0.024 | -0.038 | 0.031 | -0.23: | 0.020 | 0.044 | 0.031 |
| BS 16545-0043 | 11 10 03.9 | +38 08 28 | 179.3 | 66.7 | 13.215 | 0.004 | 0.530 | 0.006 | 0.226 | 0.014 | 0.428 | 0.018 | 0.869 | 0.031 |
| BS 16545-0059 | 11 14 22.3 | +38 26 54 | 177.8 | 67.4 | 13.797 | 0.010 | 0.113 | 0.012 | 0.198 | 0.016 | 0.92: | 0.022 | 0.370 | 0.031 |
| BS 16545-0074 | 11 20 55.4 | +35 34 45 | 183.9 | 69.6 | 14.157 | 0.003 | 0.306 | 0.006 | 0.090 | 0.007 | 0.305 | 0.008 | 0.245 | 0.031 |
| BS 16545-0080 | 11 23 16.5 | +35 34 26 | 183.5 | 70.0 | 14.635 | 0.012 | 0.344 | 0.016 | 0.092 | 0.022 | 0.322 | 0.023 | 0.295 | 0.031 |
| BS 16545-0089 | 11 21 45.9 | +37 06 57 | 179.6 | 69.2 | 14.438 | 0.009 | 0.317 | 0.012 | 0.033 | 0.016 | 0.395 | 0.020 | 0.153 | 0.031 |
| BS 16546-0075 | 14 22 50.2 | +12 11 40 | 3.0 | 63.3 | 13.156 | 0.008 | 0.423 | 0.004 | 0.045 | 0.009 | 0.255 | 0.023 | 0.289 | 0.031 |
| BS 16546-0098 | 14 27 11.8 | +09 35 16 | 0.1 | 60.8 | 13.981 | 0.004 | 0.310 | 0.007 | 0.060 | 0.011 | 0.379 | 0.016 | 1.255 | 0.031 |
| BS 16547-0043 * | 15 16 44.1 | -05 06 18 | 356.3 | 41.8 | 13.876 | 0.040 | 0.382 | 0.054 | 0.051 | 0.079 | 0.809 | 0.093 | 0.268 | 0.031 |
| BS 16548-0070 | 16 39 31.4 | +48 22 55 | 74.7 | 41.3 | 13.655 | 0.011 | 0.490 | 0.007 | 0.041 | 0.013 | 0.286 | 0.010 | 0.349 | 0.031 |

TABLE 3. (continued)

| BPS ID (1) | RA (1950) (2) | DEC (3) | l (4) | b (5) | V (6) | σ_V (7) | $b-y$ (8) | σ_{by} (9) | m_1 (10) | σ_{m_1} (11) | c_1 (12) | σ_{c_1} (13) | hk (14) | σ_{hk} (15) |
|---------------|------------------|------------|------------|------------|------------|-------------------|--------------|----------------------|---------------|------------------------|---------------|------------------------|--------------|-----------------------|
| BS 16549-0007 | 11 47 34.8 | +36 40 06 | 173.6 | 74.1 | 14.147 | 0.008 | 0.435 | 0.013 | 0.071 | 0.018 | 0.237 | 0.015 | 0.318 | 0.015 |
| BS 16549-0017 | 11 50 05.7 | +34 04 11 | 181.6 | 75.7 | 12.511 | 0.006 | 0.293 | 0.010 | 0.060 | 0.013 | 0.405 | 0.012 | 0.239 | 0.015 |
| BS 16549-0057 | 12 02 26.1 | +38 26 44 | 161.5 | 75.3 | 13.834 | 0.026 | 0.427 | 0.027 | 0.201 | 0.035 | 0.190 | 0.048 | 0.695 | 0.015 |
| BS 16549-0082 | 12 09 00.4 | +36 55 46 | 162.0 | 77.3 | 12.977 | 0.003 | 0.611 | 0.008 | 0.632 | 0.024 | 0.293 | 0.056 | 1.331 | 0.015 |
| BS 16550-0014 | 13 49 56.4 | +13 52 42 | 352.5 | 70.4 | 12.023 | 0.003 | 0.429 | 0.004 | 0.016 | 0.005 | 0.510 | 0.022 | 0.273 | 0.015 |
| BS 16552-0043 | 16 49 25.8 | +34 17 29 | 56.5 | 38.7 | 14.621 | 0.029 | 0.384 | 0.043 | 0.170 | 0.064 | 1.00: | 0.151 | 0.580 | 0.015 |
| BS 16552-0084 | 16 58 24.3 | +33 16 48 | 55.6 | 36.7 | 11.791 | 0.004 | 0.818 | 0.020 | 0.666 | 0.061 | -0.38: | 0.086 | 1.151 | 0.015 |
| BS 16552-0086 | 16 58 10.7 | +33 35 01 | 56.0 | 36.8 | 14.403 | 0.006 | 0.437 | 0.010 | 0.193 | 0.017 | 0.330 | 0.030 | 0.674 | 0.015 |
| BS 16552-0126 | 17 04 06.9 | +37 12 23 | 60.7 | 36.2 | 14.055 | 0.006 | 0.405 | 0.007 | 0.245 | 0.010 | 0.326 | 0.017 | 0.758 | 0.015 |
| BS 16552-0142 | 17 05 17.2 | +34 25 29 | 57.4 | 35.5 | 12.049 | 0.002 | 0.342 | 0.004 | 0.061 | 0.007 | 0.215 | 0.011 | 0.233 | 0.015 |
| BS 16555-0069 | 15 02 11.3 | -05 40 40 | 352.3 | 43.9 | 13.828 | 0.003 | 0.273 | 0.006 | 0.094 | 0.010 | 0.877 | 0.010 | 0.331 | 0.015 |
| BS 16557-0024 | 11 11 05.7 | -10 56 11 | 267.9 | 44.9 | 13.062 | 0.010 | 0.376 | 0.012 | 0.104 | 0.015 | 0.383 | 0.014 | 0.448 | 0.015 |
| BS 16557-0074 | 11 23 39.3 | -11 10 12 | 271.9 | 46.2 | 12.258 | 0.010 | 0.330 | 0.014 | 0.034 | 0.020 | 0.281 | 0.019 | 0.188 | 0.015 |
| BS 16558-0001 | 12 10 47.1 | -07 28 23 | 286.8 | 53.9 | 14.053 | 0.002 | 0.415 | 0.007 | 0.006 | 0.013 | 0.601 | 0.024 | 0.225 | 0.015 |
| BS 16922-0003 | 08 35 26.2 | +52 16 40 | 166.5 | 37.4 | 14.348 | 0.074 | 0.393 | 0.086 | 0.333 | 0.122 | 0.085 | 0.170 | 0.426 | 0.015 |
| BS 16922-0026 | 08 36 46.3 | +51 46 58 | 167.1 | 37.6 | 10.212 | 0.004 | 0.391 | 0.006 | 0.214 | 0.008 | 0.328 | 0.010 | 0.680 | 0.015 |
| BS 16922-0090 | 08 59 15.4 | +48 20 41 | 171.3 | 41.4 | 13.578 | 0.028 | 0.427 | 0.028 | -0.078 | 0.063 | 0.527 | 0.135 | 0.270 | 0.015 |
| BS 16924-0026 | 13 31 05.2 | +33 25 03 | 69.1 | 79.1 | 14.459 | 0.084 | 0.278 | 0.084 | -0.039 | 0.116 | 0.491 | 0.126 | 0.296 | 0.015 |
| BS 16926-0020 | 09 05 55.5 | +43 25 15 | 177.9 | 42.8 | 14.047 | 0.010 | 0.373 | 0.012 | 0.162 | 0.017 | 0.231 | 0.019 | 0.520 | 0.015 |
| BS 16926-0053 | 09 09 11.7 | +44 26 35 | 176.5 | 43.3 | 13.334 | 0.009 | 0.354 | 0.012 | 0.164 | 0.017 | 0.395 | 0.022 | 0.543 | 0.015 |
| BS 16926-0101 | 09 20 08.9 | +43 22 15 | 177.8 | 45.4 | 13.809 | 0.011 | 0.358 | 0.011 | 0.080 | 0.036 | 0.361 | 0.059 | 0.386 | 0.015 |
| BS 16929-0035 | 13 10 39.8 | +38 05 51 | 101.4 | 78.4 | 12.997 | 0.003 | 0.290 | 0.008 | 0.081 | 0.011 | 0.342 | 0.015 | 0.218 | 0.015 |
| BS 16933-0015 | 12 05 26.0 | +21 50 29 | 239.9 | 78.7 | 14.104 | 0.004 | 0.433 | 0.009 | 0.109 | 0.015 | 0.469 | 0.025 | 0.518 | 0.015 |
| BS 16934-0002 | 13 27 20.1 | +16 31 07 | 344.2 | 76.0 | 12.819 | 0.010 | 0.654 | 0.011 | 0.112 | 0.031 | 0.525 | 0.049 | 0.510 | 0.015 |
| BS 16941-0005 | 11 38 09.6 | +40 51 05 | 165.7 | 70.2 | 13.690 | 0.009 | 0.451 | 0.012 | 0.218 | 0.018 | 0.251 | 0.030 | 0.737 | 0.015 |
| BS 16941-0011 | 11 38 56.1 | +38 24 09 | 171.7 | 71.7 | 12.366 | 0.009 | 0.374 | 0.012 | 0.178 | 0.017 | 0.268 | 0.017 | 0.562 | 0.015 |
| BS 16941-0021 | 11 40 30.5 | +42 57 55 | 160.3 | 69.2 | 14.070 | 0.026 | 0.434 | 0.022 | 0.285 | 0.018 | 0.311 | 0.120 | 0.829 | 0.015 |
| BS 16945-0054 | 10 48 10.2 | +34 17 34 | 190.6 | 63.3 | 13.669 | 0.010 | 0.450 | 0.042 | -0.089 | 0.065 | 0.198 | 0.064 | 0.066 | 0.015 |
| BS 16972-0013 | 13 14 10.4 | +13 48 17 | 327.6 | 75.2 | 13.581 | 0.009 | 0.380 | 0.009 | 0.039 | 0.022 | 0.278 | 0.028 | 0.243 | 0.015 |
| BS 16972-0041 | 13 25 43.1 | +15 42 33 | 340.9 | 75.5 | 12.984 | 0.004 | 0.329 | 0.012 | 0.032 | 0.003 | 0.371 | 0.011 | 0.220 | 0.015 |
| BS 16981-0009 | 14 30 43.3 | +00 53 50 | 349.9 | 54.0 | 13.663 | 0.005 | 0.466 | 0.007 | 0.031 | 0.014 | 0.281 | 0.016 | 0.237 | 0.015 |
| BS 16986-0072 | 12 01 23.7 | +08 19 30 | 270.2 | 67.9 | 13.367 | 0.002 | 0.691 | 0.004 | 0.218 | 0.035 | 0.538 | 0.052 | 0.924 | 0.015 |
| BS 17136-0011 | 08 41 21.4 | +34 30 34 | 189.0 | 37.2 | 13.840 | 0.029 | 0.357 | 0.031 | 0.110 | 0.032 | 0.294 | 0.013 | 0.368 | 0.015 |
| BS 17136-0018 | 08 42 01.0 | +36 52 11 | 186.0 | 37.8 | 12.864 | 0.008 | 0.416 | 0.018 | 0.137 | 0.026 | 0.360 | 0.026 | 0.570 | 0.015 |
| BS 17136-0033 | 08 47 04.8 | +36 08 56 | 187.1 | 38.7 | 13.288 | 0.009 | 0.242 | 0.037 | 0.094 | 0.053 | 0.797 | 0.040 | 0.315 | 0.015 |
| BS 17136-0041 | 08 52 01.2 | +37 44 01 | 185.3 | 39.8 | 12.651 | 0.015 | 0.398 | 0.020 | 0.016 | 0.024 | 0.389 | 0.026 | 0.375 | 0.015 |
| BS 17136-0054 | 08 55 32.4 | +34 17 38 | 189.8 | 40.1 | 13.127 | 0.006 | 0.370 | 0.016 | 0.194 | 0.021 | 0.167 | 0.015 | 0.618 | 0.015 |
| BS 17136-0061 | 08 57 42.3 | +37 53 56 | 185.2 | 41.0 | 12.792 | 0.004 | 0.325 | 0.007 | 0.076 | 0.011 | 0.523 | 0.033 | 0.376 | 0.015 |
| BS 17137-0033 | 10 56 04.3 | +33 44 38 | 191.4 | 65.0 | 13.792 | 0.004 | 0.296 | 0.007 | 0.067 | 0.011 | 0.370 | 0.015 | 0.275 | 0.015 |
| BS 17139-0013 | 08 51 53.5 | +29 32 30 | 195.7 | 38.4 | 13.839 | 0.057 | 0.234 | 0.061 | 0.234 | 0.066 | 0.294 | 0.056 | 0.322 | 0.015 |

TABLE 3. (continued)

| BPS ID (1) | RA (1950) (2) | DEC (3) | l (4) | b (5) | V (6) | σ_V (7) | $b-y$ (8) | σ_{by} (9) | m_1 (10) | σ_{m_1} (11) | c_1 (12) | σ_{c_1} (13) | hk (14) | σ_{hk} (15) |
|---------------|------------------|------------|------------|------------|------------|-------------------|--------------|----------------------|---------------|------------------------|---------------|------------------------|--------------|-----------------------|
| BS 17139-0016 | 08 51 57.8 | +30 24 55 | 194.6 | 38.6 | 13.125 | 0.019 | 0.491 | 0.024 | 0.109 | 0.044 | 0.232 | 0.063 | 0.407 | 0.040 |
| BS 17139-0018 | 08 52 29.1 | +30 39 13 | 194.3 | 38.8 | 14.375 | 0.027 | 0.404 | 0.036 | -0.083 | 0.049 | 0.515 | 0.095 | 0.142 | 0.040 |
| BS 17139-0039 | 08 57 17.4 | +29 41 05 | 195.8 | 39.6 | 13.088 | 0.005 | 0.204 | 0.024 | 0.217 | 0.044 | 0.706 | 0.063 | 0.394 | 0.040 |
| BS 17435-0009 | 11 46 45.9 | +14 40 41 | 251.2 | 70.7 | 13.509 | 0.006 | 0.426 | 0.007 | 0.184 | 0.012 | 0.349 | 0.016 | 0.692 | 0.040 |
| BS 17438-0011 | 07 42 34.6 | +40 12 20 | 179.5 | 27.0 | 14.041 | 0.020 | 0.330 | 0.020 | 0.192 | 0.065 | 0.246 | 0.095 | 0.527 | 0.040 |
| BS 17438-0019 | 07 44 56.7 | +38 52 55 | 181.1 | 27.1 | 14.222 | 0.033 | 0.235 | 0.050 | 0.147 | 0.063 | 0.693 | 0.063 | 0.375 | 0.040 |
| BS 17438-0023 | 07 43 41.3 | +39 49 18 | 180.0 | 27.1 | 14.613 | 0.006 | 0.334 | 0.016 | 0.151 | 0.011 | 0.479 | 0.005 | 0.488 | 0.040 |
| BS 17438-0027 | 07 45 07.6 | +41 50 57 | 177.8 | 27.9 | 14.058 | 0.028 | 0.337 | 0.028 | 0.069 | 0.033 | 0.445 | 0.024 | 0.376 | 0.040 |
| BS 17438-0030 | 07 43 26.2 | +42 51 11 | 176.6 | 27.8 | 13.975 | 0.025 | 0.436 | 0.031 | 0.205 | 0.041 | 0.124 | 0.087 | 0.570 | 0.040 |
| BS 17438-0031 | 07 46 13.8 | +42 41 27 | 177.0 | 28.2 | 14.150 | 0.020 | 0.417 | 0.027 | -0.030 | 0.033 | 0.504 | 0.040 | 0.402 | 0.040 |
| BS 17438-0045 | 07 46 43.4 | +40 31 09 | 179.4 | 27.9 | 14.356 | 0.086 | 0.385 | 0.008 | 0.140 | 0.056 | 0.330 | 0.063 | 0.581 | 0.040 |
| BS 17438-0048 | 07 47 26.3 | +40 13 05 | 179.7 | 27.9 | 14.085 | 0.019 | 0.389 | 0.064 | 0.082 | 0.089 | 0.569 | 0.068 | 0.460 | 0.040 |
| BS 17438-0051 | 07 47 49.5 | +39 08 08 | 181.0 | 27.7 | 14.525 | 0.001 | 0.449 | 0.094 | 0.094 | 0.140 | 0.377 | 0.113 | ... | 0.040 |
| BS 17438-0064 | 07 50 16.5 | +42 00 41 | 177.9 | 28.8 | 13.641 | 0.054 | 0.358 | 0.068 | 0.095 | 0.081 | 0.433 | 0.047 | 0.447 | 0.040 |
| BS 17438-0065 | 07 50 05.4 | +42 20 38 | 177.5 | 28.9 | 14.068 | 0.007 | 0.387 | 0.018 | 0.272 | 0.042 | 0.216 | 0.052 | 0.674 | 0.040 |
| BS 17438-0082 | 07 55 23.7 | +38 35 58 | 181.9 | 29.0 | 13.231 | 0.005 | 0.262 | 0.006 | 0.211 | 0.010 | 0.674 | 0.017 | 0.430 | 0.040 |
| BS 17438-0084 | 07 54 38.3 | +39 28 29 | 180.9 | 29.1 | 14.272 | 0.025 | 0.380 | 0.026 | -0.022 | 0.030 | -0.27: | 0.044 | 0.045 | 0.040 |
| BS 17438-0088 | 07 55 43.3 | +40 06 05 | 180.3 | 29.4 | 11.897 | 0.006 | 0.123 | 0.008 | 0.204 | 0.011 | 1.04: | 0.002 | 0.390 | 0.040 |
| BS 17438-0098 | 07 58 16.0 | +41 32 51 | 178.8 | 30.2 | 13.726 | 0.054 | 0.459 | 0.054 | 0.227 | 0.059 | 0.320 | 0.041 | 0.729 | 0.040 |
| BS 17438-0107 | 08 00 53.3 | +39 17 49 | 181.4 | 30.2 | 14.377 | 0.013 | 0.290 | 0.018 | 0.136 | 0.023 | 0.481 | 0.014 | 0.400 | 0.040 |
| BS 17438-0111 | 07 59 55.7 | +39 48 10 | 180.8 | 30.2 | 14.076 | 0.010 | 0.212 | 0.013 | 0.330 | 0.019 | 0.426 | 0.020 | 0.356 | 0.040 |
| BS 17438-0113 | 08 01 33.7 | +40 54 18 | 179.6 | 30.7 | 13.968 | 0.012 | 0.385 | 0.016 | 0.052 | 0.025 | 0.439 | 0.035 | 0.362 | 0.040 |
| BS 17438-0139 | 08 05 18.6 | +40 52 01 | 179.8 | 31.4 | 14.337 | 0.012 | 0.435 | 0.032 | 0.020 | 0.044 | 0.422 | 0.096 | 0.301 | 0.040 |
| BS 17439-0054 | 10 55 41.2 | -13 35 10 | 265.6 | 40.7 | 12.989 | 0.020 | 0.418 | 0.008 | 0.150 | 0.006 | 0.314 | 0.019 | 0.571 | 0.040 |
| BS 17439-0055 | 10 55 45.0 | -12 58 24 | 265.1 | 41.2 | 11.105 | 0.001 | 0.272 | 0.004 | 0.077 | 0.002 | 0.633 | 0.000 | 0.265 | 0.040 |
| BS 17444-0003 | 08 10 11.5 | +41 46 57 | 179.0 | 32.4 | 12.699 | 0.019 | 0.231 | 0.021 | 0.205 | 0.037 | 0.682 | 0.064 | 0.449 | 0.040 |
| BS 17444-0009 | 08 13 52.3 | +39 21 43 | 181.9 | 32.7 | 13.189 | 0.003 | 0.320 | 0.016 | 0.169 | 0.028 | 0.251 | 0.040 | 0.441 | 0.040 |
| BS 17444-0011 | 08 14 11.5 | +39 50 34 | 181.4 | 32.8 | 13.115 | 0.008 | 0.368 | 0.020 | 0.203 | 0.037 | 0.308 | 0.041 | 0.632 | 0.040 |
| BS 17444-0014 | 08 15 50.0 | +40 26 03 | 180.7 | 33.3 | 13.053 | 0.009 | 0.249 | 0.012 | 0.171 | 0.016 | 0.748 | 0.017 | 0.419 | 0.040 |
| BS 17444-0040 | 08 22 20.0 | +39 40 31 | 181.9 | 34.4 | 12.913 | 0.008 | 0.354 | 0.014 | 0.134 | 0.021 | 0.402 | 0.051 | 0.572 | 0.040 |
| BS 17444-0055 | 08 27 09.0 | +40 44 31 | 180.8 | 35.4 | 13.983 | 0.018 | 0.515 | 0.025 | -0.038 | 0.036 | 0.529 | 0.065 | ... | 0.040 |
| BS 17444-0088 | 08 32 58.1 | +39 35 27 | 182.4 | 36.4 | 11.868 | 0.042 | 0.324 | 0.045 | 0.126 | 0.047 | 0.413 | 0.024 | 0.418 | 0.040 |
| BS 17447-0029 | 17 48 26.6 | +60 12 42 | 89.0 | 31.0 | 13.585 | 0.028 | 0.333 | 0.024 | 0.013 | 0.015 | 0.285 | 0.006 | 0.181 | 0.040 |
| BS 17447-0056 | 17 57 53.4 | +57 41 20 | 86.2 | 29.6 | 14.521 | 0.006 | 0.417 | 0.011 | 0.173 | 0.018 | 0.295 | 0.032 | 0.637 | 0.040 |
| BS 17447-0089 | 18 10 34.4 | +58 09 39 | 86.9 | 28.0 | 14.441 | 0.022 | 0.387 | 0.030 | 0.068 | 0.040 | 0.403 | 0.031 | 0.485 | 0.040 |
| BS 17447-0095 | 18 12 14.1 | +60 37 37 | 89.7 | 28.1 | 13.936 | 0.002 | 0.382 | 0.040 | 0.066 | 0.059 | 0.285 | 0.049 | 0.410 | 0.040 |
| BS 17447-0102 | 18 15 57.2 | +61 10 42 | 90.4 | 27.7 | 14.191 | 0.006 | 0.163 | 0.008 | 0.143 | 0.012 | 0.415 | 0.015 | 0.305 | 0.040 |
| BS 17447-0106 | 18 14 29.7 | +59 52 36 | 88.9 | 27.7 | 13.943 | 0.023 | 0.349 | 0.031 | 0.062 | 0.039 | 0.404 | 0.066 | 0.418 | 0.040 |
| BS 17448-0016 | 08 48 08.5 | +38 14 37 | 184.5 | 39.1 | 10.276 | 0.003 | 0.220 | 0.001 | 0.199 | 0.009 | 0.741 | 0.009 | 0.420 | 0.040 |
| BS 17448-0021 | 08 52 46.6 | +38 51 14 | 183.8 | 40.1 | 11.193 | 0.002 | 0.330 | 0.006 | 0.052 | 0.010 | 0.336 | 0.010 | 0.197 | 0.040 |

TABLE 3. (continued)

| BPS ID (1) | RA (1950) (2) | DEC (3) | l (4) | b (5) | V (6) | σ_V (7) | $b-y$ (8) | σ_{by} (9) | m_1 (10) | σ_{m_1} (11) | c_1 (12) | σ_{c_1} (13) | hk (14) |
|-----------------|------------------|------------|------------|------------|------------|-------------------|--------------|----------------------|---------------|------------------------|---------------|------------------------|--------------|
| BS 17451-0082 | 16 02 00.5 | +64 14 09 | 97.1 | 42.2 | 12.797 | 0.006 | 0.642 | 0.001 | 0.515 | 0.031 | -0.034 | 0.070 | 1.053 |
| BS 17569-0031 | 21 59 06.1 | +02 47 25 | 62.5 | -39.2 | 12.045 | 0.001 | 0.322 | 0.016 | 0.164 | 0.035 | 0.376 | 0.043 | 0.523 |
| BS 17569-0034 | 21 59 38.2 | +04 18 42 | 64.1 | -38.3 | 13.289 | 0.023 | 0.362 | 0.036 | 0.045 | 0.048 | 0.480 | 0.038 | 0.338 |
| BS 17569-0039 | 22 02 30.8 | +07 35 08 | 67.8 | -36.7 | 11.892 | 0.004 | 0.684 | 0.018 | 0.536 | 0.029 | 0.156 | 0.047 | 1.043 |
| BS 17569-0047 * | 22 01 06.1 | +04 39 20 | 64.8 | -38.4 | 14.267 | 0.057 | 0.366 | 0.063 | 0.081 | 0.071 | 0.249 | 0.040 | 0.263 |
| BS 17569-0078 | 22 07 54.2 | +03 49 25 | 65.4 | -40.2 | 13.656 | 0.034 | 0.359 | 0.060 | 0.049 | 0.084 | ... | ... | 0.319 |
| BS 17569-0079 | 22 07 15.2 | +04 41 30 | 66.1 | -39.5 | 12.948 | 0.020 | 0.150 | 0.021 | 0.145 | 0.025 | 0.950 | 0.022 | 0.365 |
| BS 17569-0084 | 22 10 23.8 | +06 08 37 | 68.2 | -39.1 | 13.274 | 0.018 | 0.373 | 0.026 | 0.132 | 0.032 | 0.331 | 0.021 | 0.447 |
| BS 17570-0008 | 00 04 58.4 | +25 52 25 | 110.8 | -35.7 | 13.727 | 0.032 | 0.338 | 0.034 | 0.155 | 0.037 | 0.320 | 0.037 | 0.532 |
| BS 17570-0009 | 00 04 33.4 | +25 46 11 | 110.7 | -35.8 | 13.189 | 0.012 | 0.432 | 0.014 | 0.093 | 0.016 | 0.383 | 0.008 | 0.358 |
| BS 17570-0011 | 00 05 33.5 | +25 14 53 | 110.8 | -36.3 | 12.874 | 0.006 | 0.365 | 0.003 | 0.036 | 0.008 | 0.701 | 0.012 | 0.202 |
| BS 17570-0019 | 00 07 41.5 | +23 37 08 | 111.0 | -38.0 | 13.549 | 0.011 | 0.372 | 0.043 | 0.066 | 0.062 | 0.438 | 0.047 | 0.410 |
| BS 17570-0031 | 00 11 15.9 | +23 34 06 | 112.0 | -38.2 | 12.316 | 0.004 | 0.363 | 0.008 | 0.025 | 0.008 | 0.376 | 0.005 | 0.237 |
| BS 17570-0037 | 00 13 14.9 | +26 45 15 | 113.2 | -35.2 | 13.979 | 0.041 | 0.364 | 0.005 | 0.054 | 0.007 | 0.306 | 0.010 | 0.304 |
| BS 17570-0041 | 00 13 28.7 | +24 48 17 | 112.9 | -37.1 | 14.013 | 0.005 | 0.264 | 0.018 | 0.022 | 0.027 | 0.535 | 0.029 | 0.338 |
| BS 17570-0042 | 00 13 50.3 | +24 15 48 | 112.9 | -37.6 | 13.689 | 0.012 | 0.366 | 0.024 | 0.002 | 0.031 | 0.418 | 0.021 | 0.260 |
| BS 17570-0044 | 00 14 15.6 | +23 24 32 | 112.8 | -38.5 | 12.497 | 0.001 | 0.265 | 0.005 | 0.181 | 0.021 | 0.779 | 0.017 | 0.424 |
| BS 17570-0052 | 00 16 32.7 | +26 32 56 | 114.1 | -35.5 | 12.324 | 0.002 | 0.223 | 0.009 | 0.148 | 0.026 | 0.730 | 0.044 | 0.353 |
| BS 17570-0054 | 00 17 42.7 | +27 40 44 | 114.6 | -34.4 | 12.951 | 0.022 | 0.392 | 0.022 | 0.157 | 0.039 | 0.404 | 0.047 | 0.557 |
| BS 17570-0057 | 00 17 42.7 | +26 55 35 | 114.5 | -35.2 | 9.972 | 0.005 | 0.642 | 0.008 | 0.593 | 0.010 | 0.299 | 0.006 | 1.247 |
| BS 17570-0063 | 00 17 59.9 | +23 30 59 | 113.9 | -38.5 | 14.573 | 0.009 | 0.327 | 0.026 | -0.001 | 0.037 | 0.393 | 0.088 | 0.214 |
| BS 17570-0067 | 00 18 45.7 | +23 38 59 | 114.2 | -38.4 | 13.052 | 0.010 | 0.293 | 0.013 | 0.152 | 0.018 | 0.597 | 0.037 | 0.357 |
| BS 17570-0071 | 00 19 57.1 | +26 03 38 | 114.9 | -36.1 | 13.772 | 0.007 | 0.294 | 0.027 | 0.140 | 0.029 | 0.449 | 0.031 | 0.392 |
| BS 17570-0074 | 00 20 07.6 | +27 11 08 | 115.2 | -35.0 | 13.872 | 0.030 | 0.312 | 0.030 | 0.138 | 0.031 | 0.387 | 0.018 | 0.422 |
| BS 17570-0076 | 00 21 35.5 | +27 33 34 | 115.6 | -34.6 | 13.613 | 0.003 | 0.348 | 0.052 | 0.203 | 0.074 | 0.284 | 0.055 | 0.551 |
| BS 17570-0079 | 00 22 37.7 | +26 00 19 | 115.7 | -36.2 | 14.415 | 0.023 | 0.702 | 0.034 | 1.01: | 0.060 | -2.68: | 0.064 | 1.053 |
| BS 17570-0082 | 00 21 11.4 | +25 36 21 | 115.2 | -36.6 | 13.738 | 0.010 | 0.402 | 0.017 | 0.070 | 0.026 | 0.373 | 0.102 | 0.402 |
| BS 17570-0090 | 00 23 07.1 | +22 49 03 | 115.3 | -39.4 | 13.146 | 0.002 | 0.347 | 0.004 | 0.039 | 0.015 | 0.348 | 0.026 | 0.224 |
| BS 17570-0092 | 00 23 37.2 | +23 42 40 | 115.6 | -38.5 | 13.975 | 0.025 | 0.408 | 0.030 | 0.106 | 0.038 | 0.275 | 0.079 | 0.427 |
| BS 17570-0093 | 00 23 20.8 | +25 05 35 | 115.7 | -37.1 | 13.829 | 0.011 | 0.400 | 0.011 | -0.043 | 0.011 | 0.328 | 0.011 | 0.171 |
| BS 17570-0102 | 00 24 26.0 | +27 12 25 | 116.3 | -35.1 | 12.830 | 0.012 | 0.598 | 0.012 | 0.455 | 0.039 | 0.343 | 0.060 | 1.056 |
| BS 17571-0001 | 04 09 56.2 | +12 40 19 | 180.3 | -26.9 | 13.025 | 0.002 | 0.614 | 0.016 | 0.088 | 0.030 | 0.600 | 0.061 | 0.524 |
| BS 17571-0066 | 04 22 04.9 | +09 04 07 | 185.5 | -26.9 | 13.316 | 0.014 | 0.503 | 0.022 | 0.065 | 0.037 | ... | ... | 0.537 |
| BS 17571-0082 | 04 24 11.0 | +12 09 48 | 183.1 | -24.6 | 12.017 | 0.001 | 0.534 | 0.006 | 0.070 | 0.009 | 0.676 | 0.010 | 0.430 |
| BS 17571-0087 | 04 25 13.8 | +12 47 56 | 182.8 | -24.0 | 13.227 | 0.021 | 0.643 | 0.022 | 0.029 | 0.023 | 0.554 | 0.018 | 0.419 |
| BS 17571-0096 | 04 25 09.6 | +09 38 50 | 185.5 | -25.9 | 13.571 | 0.015 | 0.571 | 0.023 | 0.023 | 0.033 | 0.707 | 0.030 | 0.363 |
| BS 17571-0119 | 04 27 29.3 | +11 46 11 | 184.0 | -24.2 | 13.488 | 0.002 | 0.706 | 0.021 | 0.084 | 0.035 | 0.493 | 0.060 | 0.639 |
| BS 17574-0019 | 04 32 12.9 | +10 55 33 | 185.5 | -23.7 | 13.211 | 0.010 | 0.574 | 0.021 | 0.027 | 0.040 | 0.669 | 0.067 | 0.441 |
| BS 17574-0040 | 04 35 29.5 | +07 53 51 | 188.7 | -24.9 | 12.306 | 0.002 | 0.371 | 0.006 | 0.076 | 0.010 | 0.527 | 0.010 | 0.360 |
| BS 17574-0044 | 04 36 05.5 | +09 14 02 | 187.6 | -24.0 | 11.136 | 0.004 | 0.371 | 0.005 | 0.122 | 0.007 | 0.615 | 0.007 | 0.427 |

TABLE 3. (continued)

| BPS ID (1) | RA (1950) (2) | DEC (3) | l (4) | b (5) | V (6) | σ_V (7) | $b-y$ (8) | σ_{by} (9) | m_1 (10) | σ_{m_1} (11) | c_1 (12) | σ_{c_1} (13) | hk (14) | σ_{hk} (15) |
|-----------------|------------------|------------|------------|------------|------------|-------------------|--------------|----------------------|---------------|------------------------|---------------|------------------------|--------------|-----------------------|
| BS 17574-0050 | 04 34 58.5 | +12 18 13 | 184.8 | -22.4 | 10.515 | 0.004 | 0.457 | 0.008 | 0.111 | 0.001 | 0.785 | 0.023 | 0.456 | 0.00 |
| BS 17574-0098 | 04 43 11.4 | +12 06 12 | 186.2 | -20.9 | 12.234 | 0.006 | 0.622 | 0.006 | 0.111 | 0.015 | 0.406 | 0.019 | 0.649 | 0.00 |
| BS 17574-0116 | 04 46 08.0 | +10 37 29 | 188.0 | -21.2 | 11.832 | 0.006 | 0.436 | 0.002 | 0.104 | 0.012 | 0.866 | 0.046 | 0.417 | 0.03 |
| BS 17574-0129 | 04 47 50.8 | +08 55 47 | 189.7 | -21.8 | 10.751 | 0.003 | 0.482 | 0.004 | 0.036 | 0.004 | 0.709 | 0.004 | 0.270 | 0.00 |
| BS 17574-0132 | 04 47 03.9 | +10 15 58 | 188.4 | -21.2 | 12.537 | 0.022 | 0.531 | 0.044 | 0.067 | 0.059 | 0.672 | 0.042 | 0.398 | 0.06 |
| BS 17575-0011 | 04 49 59.7 | +10 19 58 | 188.8 | -20.5 | 11.513 | 0.005 | 0.446 | 0.006 | 0.083 | 0.007 | 0.685 | 0.012 | 0.410 | 0.00 |
| BS 17575-0019 | 04 51 25.6 | +08 02 18 | 191.0 | -21.5 | 13.200 | 0.001 | 0.334 | 0.002 | 0.131 | 0.004 | 0.510 | 0.007 | 0.468 | 0.03 |
| BS 17575-0052 | 04 53 31.3 | +08 49 22 | 190.7 | -20.7 | 11.301 | 0.005 | 0.306 | 0.006 | 0.106 | 0.004 | 0.781 | 0.019 | 0.369 | 0.03 |
| BS 17575-0059 | 04 54 55.4 | +09 00 34 | 190.7 | -20.3 | 10.591 | 0.002 | 0.260 | 0.004 | 0.146 | 0.002 | 0.666 | 0.002 | 0.407 | 0.00 |
| BS 17575-0078 | 04 56 40.9 | +12 12 19 | 188.1 | -18.1 | 13.507 | 0.002 | 0.596 | 0.006 | 0.079 | 0.010 | 0.592 | 0.026 | 0.468 | 0.00 |
| BS 17575-0091 | 04 57 50.5 | +09 33 30 | 190.6 | -19.4 | 12.530 | 0.004 | 0.282 | 0.007 | 0.144 | 0.009 | 0.869 | 0.009 | 0.421 | 0.00 |
| BS 17575-0101 | 04 56 42.0 | +08 25 25 | 191.5 | -20.2 | 10.872 | 0.002 | 0.147 | 0.005 | 0.131 | 0.008 | 1.12: | 0.009 | 0.323 | 0.00 |
| BS 17575-0114 | 04 59 25.8 | +09 42 52 | 190.7 | -19.0 | 11.603 | 0.002 | 0.259 | 0.002 | 0.174 | 0.003 | 0.770 | 0.025 | 0.407 | 0.00 |
| BS 17575-0115 | 04 59 57.4 | +10 14 14 | 190.3 | -18.6 | 12.190 | 0.013 | 0.383 | 0.017 | 0.077 | 0.027 | 0.475 | 0.036 | 0.312 | 0.03 |
| BS 17575-0136 | 05 00 28.4 | +11 33 17 | 189.3 | -17.7 | 10.830 | 0.002 | 0.397 | 0.003 | 0.092 | 0.004 | 0.803 | 0.003 | 0.424 | 0.00 |
| BS 17575-0145 | 05 00 36.5 | +09 41 16 | 190.9 | -18.7 | 12.455 | 0.019 | 0.461 | 0.028 | 0.155 | 0.048 | 0.458 | 0.074 | 0.644 | 0.03 |
| BS 17575-0163 | 05 02 59.0 | +10 05 14 | 190.9 | -18.0 | 12.616 | 0.004 | 0.312 | 0.015 | 0.156 | 0.022 | 0.759 | 0.023 | 0.439 | 0.03 |
| BS 17575-0168 | 05 02 59.2 | +10 43 54 | 190.3 | -17.7 | 13.427 | 0.001 | 0.481 | 0.009 | 0.019 | 0.016 | 0.294 | 0.016 | 0.233 | 0.03 |
| BS 17575-0169 | 05 03 30.5 | +10 54 29 | 190.3 | -17.5 | 12.363 | 0.011 | 0.299 | 0.011 | 0.175 | 0.011 | 0.733 | 0.014 | 0.450 | 0.03 |
| BS 17575-0186 | 05 05 47.8 | +11 30 11 | 190.1 | -16.7 | 13.116 | 0.010 | 0.509 | 0.021 | 0.042 | 0.028 | 0.684 | 0.029 | 0.373 | 0.03 |
| BS 17575-0192 | 05 05 49.8 | +09 29 12 | 191.8 | -17.8 | 13.530 | 0.018 | 0.343 | 0.035 | 0.104 | 0.057 | 0.522 | 0.073 | 0.379 | 0.04 |
| BS 17575-0199 | 05 07 20.4 | +08 52 14 | 192.6 | -17.8 | 12.436 | 0.008 | 0.331 | 0.010 | 0.156 | 0.014 | 0.597 | 0.013 | 0.467 | 0.03 |
| BS 17575-0200 | 05 08 20.1 | +08 55 44 | 192.7 | -17.5 | 12.446 | 0.007 | 0.298 | 0.008 | 0.124 | 0.023 | 0.755 | 0.031 | 0.417 | 0.00 |
| BS 17575-0213 | 05 06 54.4 | +11 35 33 | 190.1 | -16.4 | 12.818 | 0.021 | 0.520 | 0.021 | 0.056 | 0.023 | 0.627 | 0.040 | 0.397 | 0.03 |
| BS 17578-0008 | 21 30 45.0 | +14 48 15 | 68.0 | -26.0 | 12.905 | 0.009 | 0.371 | 0.010 | 0.092 | 0.015 | 0.447 | 0.046 | 0.433 | 0.03 |
| BS 17578-0012 | 21 31 40.6 | +14 01 05 | 67.5 | -26.7 | 12.363 | 0.002 | 0.368 | 0.022 | 0.130 | 0.020 | 0.327 | 0.007 | 0.468 | 0.03 |
| BS 17578-0027 | 21 35 11.7 | +16 45 37 | 70.4 | -25.5 | 12.731 | 0.013 | 0.417 | 0.028 | 0.087 | 0.040 | 0.504 | 0.034 | 0.384 | 0.03 |
| BS 17578-0039 | 21 37 57.3 | +14 48 57 | 69.3 | -27.3 | 12.228 | 0.008 | 0.254 | 0.008 | 0.175 | 0.010 | 0.741 | 0.012 | 0.414 | 0.03 |
| BS 17578-0047 | 21 39 11.5 | +17 39 41 | 71.9 | -25.6 | 11.212 | 0.018 | 0.297 | 0.013 | 0.147 | 0.013 | 0.615 | 0.021 | 0.388 | 0.00 |
| BS 17578-0056 * | 21 38 44.3 | +13 58 07 | 68.8 | -28.1 | 9.889 | 0.002 | 0.230 | 0.005 | 0.238 | 0.008 | 0.706 | 0.006 | 0.454 | 0.00 |
| BS 17578-0059 | 21 41 45.3 | +12 48 17 | 68.3 | -29.4 | 12.330 | 0.012 | 0.378 | 0.002 | 0.116 | 0.003 | 0.413 | 0.009 | 0.451 | 0.03 |
| BS 17578-0063 | 21 42 12.8 | +14 05 19 | 69.5 | -28.6 | 13.208 | 0.008 | 0.140 | 0.008 | 0.061 | 0.010 | 1.03: | 0.025 | 0.147 | 0.03 |
| BS 17578-0070 | 21 42 45.6 | +17 41 24 | 72.5 | -26.2 | 9.843 | 0.021 | 0.203 | 0.005 | 0.200 | 0.019 | 0.792 | 0.052 | 0.417 | 0.03 |
| BS 17578-0074 | 21 43 08.5 | +17 04 12 | 72.1 | -26.7 | 12.714 | 0.041 | 0.437 | 0.007 | 0.099 | 0.024 | 0.390 | 0.002 | 0.506 | 0.00 |
| BS 17578-0085 | 21 43 36.5 | +13 19 17 | 69.1 | -29.4 | 11.779 | 0.008 | 0.336 | 0.013 | 0.115 | 0.016 | 0.542 | 0.011 | 0.446 | 0.03 |
| BS 17578-0100 | 21 48 27.9 | +16 31 39 | 72.7 | -28.0 | 12.134 | 0.009 | 0.504 | 0.009 | 0.161 | 0.010 | 0.394 | 0.020 | 0.695 | 0.03 |
| BS 17578-0101 | 21 48 36.0 | +16 22 37 | 72.6 | -28.1 | 12.338 | 0.023 | 0.437 | 0.024 | 0.060 | 0.026 | 0.317 | 0.015 | 0.411 | 0.03 |
| BS 17578-0115 | 21 50 06.6 | +16 11 23 | 72.7 | -28.5 | 13.087 | 0.026 | 0.510 | 0.028 | 0.208 | 0.030 | 0.465 | 0.020 | 0.806 | 0.03 |
| BS 17578-0117 | 21 50 29.6 | +16 18 48 | 72.9 | -28.5 | 12.676 | 0.048 | 0.259 | 0.052 | 0.105 | 0.096 | 0.665 | 0.125 | 0.444 | 0.00 |
| BS 17579-0032 | 00 55 54.1 | +01 45 09 | 126.5 | -60.8 | 12.578 | 0.011 | 0.383 | 0.012 | 0.152 | 0.013 | 0.345 | 0.039 | 0.580 | 0.03 |

TABLE 3. (continued)

| BPS ID (1) | RA (1950) (2) | DEC (3) | l (4) | b (5) | V (6) | σ_V (7) | $b-y$ (8) | σ_{by} (9) | m_1 (10) | σ_{m_1} (11) | c_1 (12) | σ_{c_1} (13) | hk (14) | σ_{hk} (15) |
|---------------|------------------|------------|------------|------------|------------|-------------------|--------------|----------------------|---------------|------------------------|---------------|------------------------|--------------|-----------------------|
| BS 17579-0049 | 00 55 55.2 | +01 47 04 | 126.5 | -60.8 | 12.478 | 0.006 | 0.396 | 0.006 | 0.135 | 0.014 | 0.389 | 0.021 | 0.564 | 0.02 |
| BS 17580-0016 | 03 50 38.3 | +14 17 35 | 175.4 | -29.4 | 13.210 | 0.002 | 0.596 | 0.011 | 0.085 | 0.029 | 0.530 | 0.048 | 0.488 | 0.01 |
| BS 17580-0037 | 03 53 42.7 | +14 15 17 | 176.0 | -28.8 | 12.977 | 0.021 | 0.508 | 0.024 | 0.069 | 0.032 | 0.729 | 0.071 | 0.370 | 0.03 |
| BS 17580-0049 | 03 54 34.4 | +17 44 18 | 173.3 | -26.3 | 12.406 | 0.012 | 0.554 | 0.012 | 0.116 | 0.023 | 0.328 | 0.030 | 0.539 | 0.03 |
| BS 17580-0064 | 03 56 51.5 | +12 49 43 | 177.8 | -29.2 | 13.306 | 0.010 | 0.508 | 0.016 | 0.078 | 0.021 | 0.313 | 0.043 | 0.435 | 0.02 |
| BS 17580-0076 | 03 59 46.0 | +16 14 09 | 175.5 | -26.4 | 13.596 | 0.019 | 0.424 | 0.022 | 0.091 | 0.030 | 0.403 | 0.032 | 0.350 | 0.03 |
| BS 17580-0104 | 04 03 58.1 | +14 43 57 | 177.5 | -26.7 | 10.351 | 0.010 | 0.492 | 0.010 | 0.081 | 0.005 | 0.93: | 0.016 | 0.449 | 0.06 |
| BS 17580-0122 | 04 08 26.4 | +15 51 32 | 177.3 | -25.1 | 12.897 | 0.007 | 0.583 | 0.011 | 0.110 | 0.018 | 0.341 | 0.048 | 0.629 | 0.03 |
| BS 17582-0059 | 10 28 40.7 | -16 54 49 | 261.4 | 34.1 | 13.484 | 0.016 | 0.303 | 0.018 | 0.102 | 0.026 | ... | ... | 0.391 | 0.03 |
| BS 17582-0069 | 10 27 30.3 | -13 08 01 | 258.2 | 36.9 | 13.375 | 0.030 | 0.241 | 0.066 | 0.148 | 0.088 | 0.785 | 0.070 | 0.322 | 0.10 |
| BS 17583-0002 | 21 29 52.2 | +27 00 28 | 77.5 | -17.6 | 12.596 | 0.009 | 0.463 | 0.009 | 0.082 | 0.023 | 0.475 | 0.030 | 0.480 | 0.02 |
| BS 17583-0011 | 21 30 55.1 | +25 17 32 | 76.4 | -18.9 | 11.956 | 0.005 | 0.374 | 0.008 | 0.124 | 0.011 | 0.397 | 0.013 | 0.501 | 0.01 |
| BS 17583-0012 | 21 30 25.1 | +25 09 18 | 76.2 | -18.9 | 11.497 | 0.010 | 0.616 | 0.025 | 0.250 | 0.036 | 0.385 | 0.030 | 0.899 | 0.03 |
| BS 17583-0014 | 21 30 12.6 | +24 56 53 | 76.0 | -19.1 | 12.760 | 0.012 | 0.429 | 0.024 | 0.129 | 0.032 | 0.444 | 0.041 | 0.529 | 0.03 |
| BS 17583-0015 | 21 30 25.8 | +24 49 18 | 75.9 | -19.2 | 11.564 | 0.008 | 0.377 | 0.008 | 0.096 | 0.008 | 0.540 | 0.009 | 0.424 | 0.06 |
| BS 17583-0023 | 21 33 05.1 | +23 21 56 | 75.3 | -20.6 | 11.805 | 0.004 | 0.443 | 0.006 | 0.118 | 0.010 | 0.595 | 0.015 | 0.587 | 0.03 |
| BS 17583-0027 | 21 31 31.7 | +24 07 54 | 75.6 | -19.8 | 11.865 | 0.003 | 0.398 | 0.006 | 0.144 | 0.010 | 0.405 | 0.010 | 0.560 | 0.03 |
| BS 17583-0028 | 21 33 20.2 | +24 31 42 | 76.2 | -19.9 | 12.999 | 0.015 | 0.441 | 0.016 | 0.072 | 0.035 | 0.543 | 0.057 | 0.384 | 0.02 |
| BS 17583-0032 | 21 31 45.4 | +26 22 43 | 77.3 | -18.3 | 11.455 | 0.003 | 0.376 | 0.007 | 0.121 | 0.001 | 0.741 | 0.003 | 0.444 | 0.03 |
| BS 17583-0052 | 21 36 34.9 | +23 07 01 | 75.7 | -21.4 | 12.142 | 0.016 | 0.327 | 0.016 | 0.123 | 0.016 | 0.671 | 0.007 | 0.452 | 0.03 |
| BS 17583-0064 | 21 38 29.7 | +27 25 46 | 79.2 | -18.6 | 12.918 | 0.025 | 0.401 | 0.007 | 0.140 | 0.014 | 0.402 | 0.026 | 0.544 | 0.06 |
| BS 17583-0066 | 21 38 03.8 | +27 10 21 | 79.0 | -18.7 | 9.963 | 0.004 | 0.211 | 0.004 | 0.223 | 0.006 | 0.707 | 0.006 | 0.479 | 0.06 |
| BS 17583-0067 | 21 38 52.5 | +27 06 24 | 79.0 | -18.9 | 12.536 | 0.014 | 0.283 | 0.017 | 0.185 | 0.025 | 0.646 | 0.024 | 0.444 | 0.02 |
| BS 17583-0082 | 21 38 02.2 | +23 42 48 | 76.4 | -21.2 | 13.221 | 0.010 | 0.260 | 0.011 | 0.114 | 0.019 | 0.761 | 0.042 | 0.346 | 0.01 |
| BS 17583-0084 | 21 39 16.8 | +23 10 43 | 76.2 | -21.8 | 12.816 | 0.004 | 0.413 | 0.012 | 0.129 | 0.016 | 0.351 | 0.042 | 0.527 | 0.02 |
| BS 17583-0092 | 21 40 11.2 | +24 26 05 | 77.3 | -21.0 | 10.020 | 0.004 | 0.238 | 0.006 | 0.192 | 0.008 | 0.664 | 0.007 | 0.431 | 0.06 |
| BS 17583-0097 | 21 42 04.0 | +25 59 20 | 78.8 | -20.2 | 12.163 | 0.013 | 0.443 | 0.021 | 0.206 | 0.059 | 0.339 | 0.078 | 0.733 | 0.07 |
| BS 17583-0111 | 21 43 09.9 | +26 16 44 | 79.2 | -20.2 | 12.609 | 0.006 | 0.349 | 0.010 | 0.138 | 0.020 | 0.443 | 0.040 | 0.475 | 0.03 |
| BS 17583-0115 | 21 44 00.3 | +24 56 11 | 78.3 | -21.3 | 12.733 | 0.017 | 0.437 | 0.017 | 0.180 | 0.017 | 0.353 | 0.041 | 0.701 | 0.02 |
| BS 17583-0120 | 21 44 32.0 | +23 28 08 | 77.3 | -22.4 | 11.790 | 0.008 | 0.125 | 0.012 | 0.141 | 0.015 | 1.13: | 0.014 | 0.333 | 0.03 |
| BS 17583-0124 | 21 43 44.7 | +23 22 29 | 77.1 | -22.4 | 12.500 | 0.005 | 0.318 | 0.010 | 0.105 | 0.016 | 0.502 | 0.022 | 0.367 | 0.03 |
| BS 17583-0132 | 21 46 31.1 | +23 17 38 | 77.6 | -22.9 | 12.068 | 0.004 | 0.439 | 0.016 | 0.134 | 0.022 | 0.334 | 0.018 | 0.656 | 0.02 |
| BS 17583-0134 | 21 44 39.1 | +23 48 32 | 77.6 | -22.2 | 12.130 | 0.006 | 0.279 | 0.006 | 0.161 | 0.008 | 0.551 | 0.026 | 0.431 | 0.06 |
| BS 17583-0140 | 21 46 37.8 | +26 30 11 | 79.9 | -20.5 | 12.262 | 0.001 | 0.355 | 0.002 | 0.161 | 0.004 | 0.355 | 0.032 | 0.570 | 0.06 |
| BS 17583-0146 | 21 47 45.6 | +26 00 40 | 79.8 | -21.1 | 12.137 | 0.009 | 0.326 | 0.011 | 0.115 | 0.015 | 0.486 | 0.011 | 0.420 | 0.03 |
| BS 17583-0154 | 21 47 52.8 | +24 17 04 | 78.6 | -22.3 | 12.729 | 0.002 | 0.312 | 0.002 | 0.097 | 0.029 | 0.471 | 0.043 | 0.441 | 0.02 |
| BS 17583-0155 | 21 47 44.7 | +23 45 23 | 78.1 | -22.7 | 12.286 | 0.005 | 0.339 | 0.006 | 0.125 | 0.008 | 0.563 | 0.025 | 0.512 | 0.06 |
| BS 17583-0159 | 21 49 48.5 | +23 17 30 | 78.2 | -23.4 | 12.484 | 0.006 | 0.394 | 0.012 | 0.104 | 0.016 | 0.410 | 0.094 | 0.503 | 0.03 |
| BS 17583-0162 | 21 49 11.2 | +24 22 52 | 78.9 | -22.5 | 10.540 | 0.002 | 0.164 | 0.004 | 0.192 | 0.006 | 0.842 | 0.009 | 0.458 | 0.06 |
| BS 17584-0002 | 23 19 40.9 | +27 00 13 | 99.6 | -31.5 | 12.335 | 0.003 | 0.382 | 0.004 | 0.111 | 0.006 | 0.428 | 0.011 | 0.483 | 0.06 |

TABLE 3. (continued)

| BPS ID (1) | RA (1950) (2) | DEC (3) | l (4) | b (5) | V (6) | σ_V (7) | $b-y$ (8) | σ_{by} (9) | m_1 (10) | σ_{m_1} (11) | c_1 (12) | σ_{c_1} (13) | hk (14) |
|-----------------|------------------|------------|------------|------------|------------|-------------------|--------------|----------------------|---------------|------------------------|---------------|------------------------|--------------|
| BS 17584-0004 | 23 20 19.1 | +25 42 22 | 99.2 | -32.8 | 12.708 | 0.006 | 0.415 | 0.011 | 0.101 | 0.027 | 0.476 | 0.035 | 0.520 |
| BS 17584-0016 | 23 21 55.8 | +26 09 38 | 99.8 | -32.5 | 12.074 | 0.010 | 0.435 | 0.011 | 0.157 | 0.013 | 0.356 | 0.019 | 0.623 |
| BS 17584-0019 | 23 24 30.9 | +27 32 25 | 101.0 | -31.4 | 12.528 | 0.009 | 0.438 | 0.011 | 0.109 | 0.020 | 0.370 | 0.046 | 0.535 |
| BS 17584-0030 | 23 30 00.3 | +26 50 11 | 102.0 | -32.5 | 11.946 | 0.013 | 0.255 | 0.017 | 0.139 | 0.024 | 0.715 | 0.023 | 0.410 |
| BS 17584-0032 | 23 29 40.3 | +26 25 14 | 101.8 | -32.9 | 12.908 | 0.003 | 0.444 | 0.013 | 0.037 | 0.024 | 0.349 | 0.046 | 0.370 |
| BS 17584-0037 | 23 29 55.5 | +23 49 01 | 100.7 | -35.3 | 11.986 | 0.006 | 0.458 | 0.010 | 0.166 | 0.012 | 0.377 | 0.020 | 0.700 |
| BS 17584-0039 | 23 31 25.0 | +22 51 13 | 100.7 | -36.4 | 12.278 | 0.002 | 0.397 | 0.019 | 0.132 | 0.027 | 0.385 | 0.032 | 0.506 |
| BS 17584-0045 | 23 30 34.1 | +25 16 40 | 101.5 | -34.0 | 12.904 | 0.010 | 0.332 | 0.029 | 0.114 | 0.041 | 0.426 | 0.031 | 0.394 |
| BS 17584-0049 | 23 32 19.1 | +27 18 07 | 102.8 | -32.3 | 13.466 | 0.009 | 0.377 | 0.034 | 0.006 | 0.096 | 0.461 | 0.137 | 0.354 |
| BS 17584-0072 | 23 38 55.1 | +23 55 23 | 103.1 | -36.0 | 12.685 | 0.006 | 0.428 | 0.010 | 0.181 | 0.050 | 0.367 | 0.070 | 0.685 |
| BS 17584-0081 | 23 40 50.3 | +24 24 37 | 103.8 | -35.6 | 12.437 | 0.003 | 0.364 | 0.007 | 0.147 | 0.016 | 0.402 | 0.024 | 0.520 |
| BS 17585-0019 | 04 11 29.2 | +14 12 37 | 179.2 | -25.7 | 10.414 | 0.001 | 0.485 | 0.002 | 0.063 | 0.004 | 0.93 | 0.007 | 0.401 |
| BS 17585-0045 | 04 15 59.1 | +13 14 47 | 180.8 | -25.4 | 11.930 | 0.010 | 0.859 | 0.032 | 0.612 | 0.052 | 0.037 | 0.081 | 1.374 |
| BS 17585-0059 | 04 18 32.0 | +17 08 28 | 178.0 | -22.5 | 12.373 | 0.009 | 0.592 | 0.010 | 0.166 | 0.035 | 0.343 | 0.072 | 0.738 |
| BS 17585-0080 | 04 20 11.7 | +15 08 01 | 179.9 | -23.5 | 13.159 | 0.017 | 0.809 | 0.026 | -0.016 | 0.032 | 0.590 | 0.028 | 0.419 |
| BS 17585-0111 | 04 26 02.3 | +15 18 19 | 180.8 | -22.3 | 12.605 | 0.005 | 0.762 | 0.005 | 0.014 | 0.010 | 0.549 | 0.018 | 0.476 |
| BS 17585-0132 | 04 29 21.0 | +16 12 35 | 180.5 | -21.1 | 12.396 | 0.009 | 0.537 | 0.014 | 0.111 | 0.017 | 0.843 | 0.015 | 0.451 |
| BS 17586-0002 | 08 49 11.4 | -07 53 29 | 235.2 | 22.2 | 11.956 | 0.001 | 0.314 | 0.006 | 0.094 | 0.009 | 0.467 | 0.012 | 0.402 |
| BS 17586-0024 | 08 51 24.0 | -09 14 33 | 236.7 | 21.8 | 9.633 | 0.005 | 0.234 | 0.005 | 0.200 | 0.006 | 0.716 | 0.006 | 0.452 |
| BS 17586-0053 | 08 57 49.3 | -09 34 53 | 238.0 | 23.0 | 12.359 | 0.032 | 0.329 | 0.036 | 0.019 | 0.040 | 0.94 | 0.023 | 0.247 |
| BS 17586-0059 | 08 57 52.6 | -11 01 56 | 239.3 | 22.1 | 12.254 | 0.002 | 0.189 | 0.004 | 0.167 | 0.014 | 0.840 | 0.020 | 0.345 |
| BS 17586-0063 | 08 57 16.3 | -11 47 34 | 239.9 | 21.6 | 10.486 | 0.006 | 0.240 | 0.006 | 0.140 | 0.006 | 0.705 | 0.004 | 0.407 |
| BS 17586-0066 | 08 59 12.4 | -11 19 11 | 239.8 | 22.2 | 12.214 | 0.008 | 0.300 | 0.012 | ... | ... | 0.493 | 0.027 | 0.396 |
| BS 17586-0069 | 08 58 30.5 | -10 31 18 | 239.0 | 22.5 | 10.926 | 0.002 | 0.143 | 0.004 | 0.184 | 0.014 | 0.857 | 0.019 | 0.406 |
| CS 22171-0018 | 02 00 38.1 | -12 43 19 | 175.3 | -67.7 | 14.356 | 0.051 | 0.209 | 0.063 | ... | ... | ... | ... | -0.075 |
| CS 22173-0005 | 03 56 24.4 | -19 50 25 | 213.4 | -46.7 | 12.938 | 0.028 | 0.321 | 0.029 | 0.124 | 0.043 | 0.528 | 0.045 | 0.434 |
| CS 22174-0012 | 01 11 45.4 | -08 45 35 | 140.2 | -70.6 | 14.983 | 0.017 | 0.545 | 0.017 | -0.14 | 0.023 | 0.621 | 0.023 | 0.081 |
| CS 22174-0031 | 01 24 46.1 | -11 19 18 | 152.3 | -71.9 | 13.975 | 0.024 | 0.356 | 0.027 | -0.060 | 0.030 | 0.674 | 0.022 | 0.196 |
| CS 22174-0036 | 01 23 02.2 | -08 17 04 | 147.4 | -69.3 | 12.913 | 0.004 | 0.848 | 0.035 | 0.637 | 0.058 | 0.139 | 0.186 | 1.447 |
| CS 22177-0009 | 04 05 34.3 | -25 10 36 | 221.7 | -46.2 | 14.301 | 0.042 | 0.306 | 0.046 | 0.083 | 0.057 | 0.116 | 0.167 | 0.214 |
| CS 22177-0010 | 04 07 55.3 | -25 52 29 | 222.9 | -45.8 | 14.223 | 0.045 | 0.363 | 0.046 | 0.034 | 0.051 | 0.369 | 0.040 | 0.298 |
| CS 22177-0018 | 04 12 25.3 | -25 28 13 | 222.7 | -44.7 | 14.997 | 0.078 | 0.333 | 0.079 | 0.114 | 0.094 | 0.351 | 0.072 | 0.280 |
| CS 22177-0032 | 04 19 42.8 | -23 52 04 | 221.1 | -42.7 | 13.242 | 0.005 | 0.362 | 0.032 | 0.110 | 0.048 | 0.359 | 0.044 | 0.481 |
| CS 22184-0011 | 02 32 24.1 | -10 34 31 | 183.3 | -60.4 | 14.688 | 0.016 | 0.257 | 0.050 | 0.072 | 0.112 | 0.616 | 0.138 | 0.242 |
| CS 22185-0010 | 03 14 25.8 | -14 31 35 | 199.7 | -53.9 | 13.613 | 0.027 | 0.264 | 0.038 | 0.149 | 0.047 | 0.588 | 0.052 | 0.429 |
| CS 22185-0025 | 03 29 36.7 | -16 31 57 | 205.2 | -51.4 | 14.201 | 0.024 | 0.305 | 0.028 | 0.089 | 0.041 | 0.422 | 0.041 | 0.258 |
| CS 22189-0003 | 02 29 57.1 | -15 19 56 | 190.9 | -63.7 | 13.578 | 0.015 | 0.289 | 0.021 | -0.022 | 0.026 | -0.34 | 0.024 | 0.041 |
| CS 22189-0008 * | 02 37 01.1 | -12 48 37 | 188.4 | -60.9 | 13.547 | 0.023 | 0.168 | 0.026 | 0.206 | 0.031 | 0.718 | 0.034 | 0.430 |
| CS 22189-0009 | 02 39 18.9 | -13 41 01 | 190.5 | -60.9 | 14.056 | 0.002 | 0.511 | 0.036 | 0.039 | 0.090 | ... | ... | 0.352 |
| CS 22877-0011 | 13 12 02.8 | -09 20 00 | 312.4 | 52.8 | 13.830 | 0.004 | 0.460 | 0.008 | 0.043 | 0.013 | 0.226 | 0.018 | 0.291 |

TABLE 3. (continued)

| BPS ID (1) | RA (1950) (2) | DEC (3) | l (4) | b (5) | V (6) | σ_V (7) | $b-y$ (8) | σ_{by} (9) | m_1 (10) | σ_{m_1} (11) | c_1 (12) | σ_{c_1} (13) | hk (14) |
|-----------------|------------------|------------|------------|------------|------------|-------------------|--------------|----------------------|---------------|------------------------|---------------|------------------------|--------------|
| CS 22877-0015 | 13 11 08.1 | -08 59 51 | 312.2 | 53.2 | 13.207 | 0.009 | 0.335 | 0.000 | 0.060 | 0.005 | 0.296 | 0.030 | 0.260 |
| CS 22878-0101 | 16 43 06.8 | +08 20 11 | 25.6 | 31.7 | 13.744 | 0.001 | 0.626 | 0.016 | 0.046 | 0.034 | 0.424 | 0.050 | 0.330 |
| CS 22886-0041 | 22 19 43.3 | -10 53 24 | 50.8 | -51.3 | 13.965 | 0.025 | 0.322 | 0.025 | 0.067 | 0.032 | 0.477 | 0.049 | 0.307 |
| CS 22886-0067 | 22 20 57.6 | -11 14 47 | 50.6 | -51.7 | 13.565 | 0.019 | 0.544 | 0.031 | 0.250 | 0.070 | 0.281 | 0.109 | 0.878 |
| CS 22892-0027 | 22 05 21.9 | -15 50 11 | 41.3 | -50.5 | 12.717 | 0.016 | 0.227 | 0.016 | 0.090 | 0.034 | 0.688 | 0.045 | 0.315 |
| CS 22893-0029 | 23 01 27.9 | -07 53 43 | 65.4 | -57.9 | 14.319 | 0.004 | 0.187 | 0.045 | 0.143 | 0.074 | 0.633 | 0.072 | 0.437 |
| CS 22894-0016 | 23 34 14.0 | +00 01 07 | 86.7 | -57.2 | 12.542 | 0.013 | 0.882 | 0.013 | 0.525 | 0.042 | 0.146 | 0.103 | 1.263 |
| CS 22894-0025 | 23 40 28.3 | -02 04 55 | 87.1 | -59.8 | 11.218 | 0.012 | 0.668 | 0.019 | 0.477 | 0.035 | 0.225 | 0.062 | 1.008 |
| CS 22894-0036 | 23 39 33.6 | +00 16 14 | 89.1 | -57.7 | 14.808 | 0.044 | 0.240 | 0.062 | 0.028 | 0.076 | 1.00: | 0.157 | 0.114 |
| CS 22894-0043 | 23 44 43.9 | +00 27 56 | 91.4 | -58.1 | 13.967 | 0.013 | 0.256 | 0.026 | 0.066 | 0.120 | 0.682 | 0.165 | 0.338 |
| CS 22898-0026 | 21 03 16.4 | -18 45 10 | 29.8 | -37.8 | 13.418 | 0.012 | 0.224 | 0.015 | -0.031 | 0.031 | 0.257 | 0.037 | 0.198 |
| CS 22898-0027 | 21 02 55.5 | -18 48 55 | 29.7 | -37.7 | 12.859 | 0.003 | 0.396 | 0.010 | 0.057 | 0.021 | 0.269 | 0.057 | 0.262 |
| CS 22898-0062 | 21 11 21.4 | -18 55 07 | 30.4 | -39.6 | 13.807 | 0.042 | 0.470 | 0.042 | 0.128 | 0.068 | 0.082 | 0.074 | 0.397 |
| CS 22942-0011 | 00 51 46.3 | -25 20 49 | 140.0 | -87.9 | 12.924 | 0.003 | 0.473 | 0.008 | 0.031 | 0.027 | 0.262 | 0.065 | 0.335 |
| CS 22944-0011 | 21 38 42.1 | -15 26 28 | 38.1 | -44.4 | 11.990 | 0.005 | 0.330 | 0.026 | 0.084 | 0.043 | 0.313 | 0.043 | 0.264 |
| CS 22944-0032 | 21 45 00.3 | -13 54 19 | 40.9 | -45.2 | 13.302 | 0.020 | 0.397 | 0.046 | 0.251 | 0.111 | 0.046 | 0.014 | 0.366 |
| CS 22944-0037 | 21 43 54.1 | -14 43 37 | 39.7 | -45.3 | 12.520 | 0.004 | 0.802 | 0.005 | 0.029 | 0.009 | -0.40: | 0.014 | 0.252 |
| CS 22946-0002 | 01 10 49.9 | -21 52 01 | 166.1 | -82.6 | 14.635 | 0.052 | 0.219 | 0.062 | 0.154 | 0.071 | 0.299 | 0.062 | 0.296 |
| CS 22949-0018 * | 23 15 24.1 | -06 43 45 | 71.6 | -59.7 | 13.909 | 0.002 | 0.384 | 0.030 | 0.064 | 0.045 | 0.357 | 0.059 | 0.350 |
| CS 22949-0025 * | 23 18 22.0 | -06 07 39 | 73.5 | -59.7 | 14.121 | 0.007 | 0.389 | 0.013 | 0.346 | 0.026 | 0.264 | 0.058 | 0.783 |
| CS 22949-0026 * | 23 20 29.4 | -05 29 22 | 75.2 | -59.6 | 13.149 | 0.011 | 0.364 | 0.018 | 0.054 | 0.036 | 0.274 | 0.058 | 0.243 |
| CS 22949-0030 | 23 18 50.1 | -04 02 09 | 76.4 | -58.2 | 13.860 | 0.021 | 0.303 | 0.028 | 0.107 | 0.057 | 0.285 | 0.072 | 0.254 |
| CS 22949-0052 | 23 25 12.5 | -07 03 27 | 74.8 | -61.6 | 13.815 | 0.007 | 0.348 | 0.081 | 0.029 | 0.115 | 0.328 | 0.084 | 0.230 |
| CS 22950-0027 | 20 16 15.1 | -14 11 33 | 29.7 | -25.6 | 10.498 | 0.025 | 0.665 | 0.002 | 0.406 | 0.010 | 0.246 | 0.014 | 0.994 |
| CS 22950-0046 | 20 18 41.6 | -13 26 11 | 30.7 | -25.9 | 14.234 | 0.008 | 0.761 | 0.009 | -0.037 | 0.009 | 0.581 | 0.089 | 0.282 |
| CS 22950-0096 | 20 25 20.6 | -15 52 20 | 29.0 | -28.3 | 13.842 | 0.008 | 0.416 | 0.009 | -0.027 | 0.015 | 0.303 | 0.018 | 0.203 |
| CS 22950-0153 | 20 29 45.8 | -15 58 12 | 29.3 | -29.3 | 13.725 | 0.040 | 0.489 | 0.056 | -0.016 | 0.066 | 0.372 | 0.015 | 0.266 |
| CS 22952-0015 | 23 34 54.1 | -06 04 33 | 80.1 | -62.3 | 13.276 | 0.017 | 0.551 | 0.018 | 0.102 | 0.020 | 0.394 | 0.079 | 0.361 |
| CS 22954-0015 | 02 36 49.7 | -02 42 28 | 173.9 | -54.3 | 13.023 | 0.041 | 0.340 | 0.004 | 0.050 | 0.010 | 0.322 | 0.025 | 0.255 |
| CS 22955-0134 | 20 34 28.1 | -22 37 35 | 22.5 | -32.8 | 13.821 | 0.009 | 0.374 | 0.022 | 0.064 | 0.037 | 0.743 | 0.043 | 0.305 |
| CS 22957-0022 | 23 59 11.7 | -06 06 27 | 91.7 | -65.6 | 13.352 | 0.004 | 0.509 | 0.008 | 0.018 | 0.011 | 0.394 | 0.042 | 0.266 |
| CS 22957-0026 | 23 57 28.3 | -04 23 48 | 92.6 | -63.9 | 13.143 | 0.029 | 0.352 | 0.044 | 0.055 | 0.065 | 0.300 | 0.078 | 0.154 |
| CS 22962-0006 | 01 35 27.2 | -05 14 47 | 151.6 | -65.2 | 12.845 | 0.024 | 0.298 | 0.024 | 0.037 | 0.026 | -0.015 | 0.009 | 0.144 |
| CS 22962-0021 | 01 46 34.7 | -04 05 46 | 156.0 | -63.0 | 13.528 | 0.016 | 0.396 | 0.044 | -0.062 | 0.065 | 0.354 | 0.059 | 0.176 |
| CS 22962-0027 | 01 45 44.1 | -06 09 18 | 158.0 | -64.8 | 14.489 | 0.038 | 0.424 | 0.038 | 0.057 | 0.053 | 0.264 | 0.054 | 0.305 |
| CS 22963-0001 | 02 53 01.0 | -04 12 53 | 180.4 | -52.4 | 11.535 | 0.008 | 0.794 | 0.008 | 0.730 | 0.013 | -0.069 | 0.040 | 1.438 |
| CS 22963-0009 | 02 55 11.6 | -05 50 50 | 183.1 | -53.1 | 13.536 | 0.002 | 0.379 | 0.004 | -0.007 | 0.018 | 0.326 | 0.037 | 0.224 |
| CS 22963-0014 | 02 57 40.9 | -06 34 03 | 184.6 | -53.1 | 12.114 | 0.002 | 0.754 | 0.012 | 0.710 | 0.017 | 0.058 | 0.026 | 1.536 |
| CS 22963-0015 | 02 57 21.1 | -06 44 13 | 184.8 | -53.2 | 14.357 | 0.005 | 0.370 | 0.004 | 0.132 | 0.008 | 0.385 | 0.097 | 0.492 |
| CS 22963-0027 | 03 07 24.3 | -03 48 51 | 183.6 | -49.4 | 14.484 | 0.069 | 0.319 | 0.069 | 0.109 | 0.072 | 0.511 | 0.031 | 0.374 |

TABLE 3. (continued)

| BPS ID (1) | RA (1950) (2) | DEC (3) | l (4) | b (5) | V (6) | σ_V (7) | $b-y$ (8) | σ_{by} (9) | m_1 (10) | σ_{m_1} (11) | c_1 (12) | σ_{c_1} (13) | hk (14) | σ (15) |
|---------------|------------------|------------|------------|------------|------------|-------------------|--------------|----------------------|---------------|------------------------|---------------|------------------------|--------------|------------------|
| CS 22963-0029 | 03 06 32.1 | -02 43 30 | 182.1 | -48.9 | 12.726 | 0.004 | 0.751 | 0.040 | 0.664 | 0.075 | ... | ... | 1.475 | 0. |
| CS 22965-0029 | 21 56 56.1 | -03 51 00 | 55.1 | -42.7 | 13.758 | 0.005 | 0.456 | 0.027 | 0.024 | 0.038 | 0.508 | 0.027 | 0.280 | 0. |
| CS 22965-0035 | 21 56 51.8 | -06 42 11 | 51.8 | -44.3 | 14.641 | 0.050 | 0.261 | 0.065 | 0.191 | 0.084 | 0.174 | 0.093 | 0.313 | 0. |
| CS 22965-0043 | 22 02 53.2 | -06 36 31 | 53.0 | -45.5 | 13.881 | 0.014 | 0.375 | 0.017 | 0.093 | 0.037 | 0.149 | 0.075 | 0.350 | 0. |
| CS 22965-0053 | 21 59 50.0 | -02 38 04 | 57.0 | -42.6 | 12.800 | 0.010 | 0.315 | 0.013 | 0.097 | 0.020 | 0.866 | 0.028 | 0.336 | 0. |
| CS 22965-0086 | 22 09 53.6 | -05 09 42 | 56.1 | -46.1 | 11.115 | 0.006 | 0.455 | 0.007 | 0.168 | 0.020 | 0.320 | 0.026 | 0.708 | 0. |
| CS 29502-0009 | 22 24 50.2 | +01 43 16 | 67.1 | -44.7 | 13.764 | 0.005 | 0.522 | 0.046 | 0.052 | 0.065 | 0.306 | 0.071 | 0.326 | 0. |
| CS 29502-0011 | 22 24 59.5 | -00 32 41 | 64.8 | -46.3 | 13.151 | 0.015 | 0.298 | 0.020 | 0.080 | 0.027 | 0.675 | 0.032 | 0.272 | 0. |
| CS 29502-0062 | 22 12 49.6 | +02 16 09 | 64.9 | -42.1 | 11.214 | 0.005 | 0.363 | 0.001 | 0.128 | 0.006 | 0.403 | 0.006 | 0.499 | 0. |
| CS 29502-0082 | 22 08 58.8 | +01 15 51 | 63.1 | -42.0 | 11.109 | 0.008 | 0.358 | 0.009 | 0.149 | 0.012 | 0.408 | 0.012 | 0.561 | 0. |
| CS 29502-0093 | 22 12 39.6 | -01 41 25 | 60.7 | -44.6 | 11.671 | 0.001 | 0.297 | 0.002 | 0.139 | 0.016 | 0.827 | 0.030 | 0.411 | 0. |
| CS 29506-0019 | 21 17 25.9 | -18 25 30 | 31.7 | -40.8 | 14.358 | 0.040 | 0.495 | 0.068 | -0.007 | 0.092 | 0.382 | 0.071 | 0.091 | 0. |
| CS 29506-0039 | 21 18 37.1 | -20 50 40 | 28.8 | -41.9 | 13.780 | 0.040 | 0.291 | 0.068 | 0.034 | 0.092 | 0.650 | 0.071 | 0.285 | 0. |
| CS 29510-0111 | 02 09 59.8 | -25 34 51 | 211.9 | -71.8 | 13.387 | 0.010 | 0.141 | 0.022 | 0.108 | 0.051 | 0.891 | 0.069 | 0.370 | 0. |
| CS 29512-0043 | 22 17 22.9 | -11 58 17 | 48.9 | -51.3 | 13.417 | 0.004 | 0.377 | 0.006 | 0.057 | 0.014 | 0.240 | 0.022 | 0.252 | 0. |
| CS 29512-0049 | 22 17 33.8 | -12 33 05 | 48.1 | -51.6 | 13.709 | 0.008 | 0.290 | 0.018 | 0.092 | 0.025 | 0.541 | 0.026 | 0.377 | 0. |
| CS 29512-0060 | 22 22 52.8 | -09 19 34 | 53.6 | -51.1 | 13.219 | 0.029 | 0.319 | 0.040 | 0.117 | 0.053 | 0.515 | 0.042 | 0.430 | 0. |
| CS 29516-0080 | 22 14 03.5 | +04 46 45 | 67.7 | -40.7 | 13.995 | 0.024 | 0.509 | 0.037 | 0.166 | 0.053 | 0.155 | 0.064 | 0.641 | 0. |
| CS 29517-0016 | 23 50 19.3 | -17 11 21 | 67.0 | -73.0 | 12.396 | 0.000 | 0.890 | 0.006 | 0.532 | 0.010 | 0.127 | 0.034 | 1.229 | 0. |
| CS 29522-0042 | 23 42 16.8 | +08 58 36 | 96.7 | -50.2 | 13.887 | 0.014 | 0.507 | 0.030 | 0.043 | 0.057 | 0.321 | 0.079 | 0.459 | 0. |
| CS 29522-0064 | 23 38 55.0 | +10 20 41 | 96.4 | -48.6 | 13.555 | 0.024 | 0.425 | 0.032 | 0.064 | 0.060 | 0.356 | 0.077 | 0.443 | 0. |
| CS 29522-0082 | 23 34 00.4 | +11 39 40 | 95.6 | -46.9 | 13.840 | 0.010 | 0.356 | 0.053 | 0.047 | 0.075 | 0.539 | 0.062 | 0.360 | 0. |
| CS 29522-0092 | 23 33 01.2 | +08 43 39 | 93.3 | -49.5 | 13.761 | 0.005 | 0.451 | 0.046 | -0.027 | 0.069 | 0.569 | 0.070 | 0.316 | 0. |
| CS 29527-0003 | 00 25 01.0 | -22 17 30 | 74.9 | -82.5 | 13.185 | 0.026 | 0.308 | 0.027 | 0.044 | 0.045 | 0.382 | 0.055 | 0.233 | 0. |
| CS 29527-0014 | 00 23 37.0 | -19 39 34 | 84.7 | -80.3 | 13.797 | 0.010 | 0.323 | 0.029 | 0.060 | 0.041 | 0.359 | 0.050 | 0.397 | 0. |
| CS 29527-0066 | 00 42 36.7 | -19 10 41 | 112.6 | -81.6 | 12.903 | 0.018 | 0.266 | 0.029 | 0.045 | 0.049 | 0.716 | 0.105 | 0.223 | 0. |
| CS 29528-0040 | 02 26 20.0 | -18 14 46 | 195.9 | -65.8 | 13.612 | 0.028 | 0.372 | 0.028 | 0.105 | 0.028 | 0.100 | 0.026 | 0.414 | 0. |
| CS 29528-0046 | 02 30 00.8 | -19 45 27 | 200.1 | -65.7 | 13.972 | 0.026 | 0.393 | 0.033 | 0.024 | 0.040 | 0.190 | 0.052 | 0.306 | 0. |
| CS 30311-0022 | 13 20 38.6 | +04 52 03 | 322.9 | 66.2 | 14.153 | 0.004 | 0.329 | 0.007 | 0.030 | 0.012 | 0.297 | 0.017 | 0.202 | 0. |
| CS 30311-0038 | 13 19 27.5 | +02 40 34 | 320.7 | 64.2 | 14.371 | 0.004 | 0.478 | 0.008 | 0.007 | 0.014 | 0.064 | 0.021 | 0.255 | 0. |
| CS 30311-0068 | 13 11 01.5 | +07 08 17 | 318.5 | 69.1 | 14.074 | 0.003 | 0.293 | 0.008 | 0.063 | 0.012 | 0.552 | 0.019 | 0.266 | 0. |
| CS 30312-0131 | 15 41 25.0 | -01 22 39 | 5.4 | 39.6 | 13.600 | 0.006 | 0.407 | 0.008 | 0.003 | 0.012 | 0.493 | 0.016 | 0.254 | 0. |
| CS 30315-0013 | 23 33 36.7 | -23 10 56 | 42.7 | -72.5 | 10.560 | 0.015 | 0.315 | 0.015 | 0.131 | 0.017 | 0.484 | 0.010 | 0.482 | 0. |
| CS 30315-0016 | 23 31 30.0 | -23 23 10 | 41.6 | -72.1 | 13.166 | 0.009 | 0.306 | 0.011 | 0.050 | 0.018 | 0.589 | 0.020 | 0.297 | 0. |
| CS 30317-0056 | 14 35 22.3 | +06 30 42 | 358.3 | 57.2 | 13.987 | 0.018 | 0.342 | 0.019 | ... | ... | ... | ... | 0.180 | 0. |
| CS 30319-0068 | 21 06 19.6 | -24 57 04 | 22.5 | -40.4 | 10.507 | 0.001 | 0.115 | 0.001 | 0.165 | 0.001 | 1.12 | 0.002 | 0.339 | 0. |
| CS 30320-0069 | 13 56 25.1 | +11 06 07 | 350.4 | 67.3 | 14.506 | 0.028 | 0.312 | 0.030 | 0.061 | 0.033 | 0.194 | 0.021 | 0.205 | 0. |
| CS 30320-0109 | 13 49 44.3 | +11 50 26 | 348.4 | 68.9 | 13.811 | 0.005 | 0.376 | 0.007 | 0.028 | 0.011 | 0.467 | 0.016 | 0.738 | 0. |
| CS 30325-0110 | 14 50 38.0 | +06 06 17 | 2.2 | 54.1 | 13.691 | 0.033 | 0.374 | 0.056 | 0.040 | 0.082 | 0.367 | 0.073 | 0.224 | 0. |
| CS 30331-0029 | 21 18 29.6 | -27 36 32 | 19.9 | -43.7 | 12.490 | 0.009 | 0.361 | 0.010 | 0.017 | 0.017 | 0.384 | 0.030 | 0.203 | 0. |

TABLE 3. (continued)

| BPS ID (1) | RA (1950) (2) | DEC (3) | l (4) | b (5) | V (6) | σ_V (7) | $b-y$ (8) | σ_{by} (9) | m_1 (10) | σ_{m_1} (11) | c_1 (12) | σ_{c_1} (13) | hk (14) | σ (15) |
|-----------------|------------------|------------|------------|------------|------------|-------------------|--------------|----------------------|---------------|------------------------|---------------|------------------------|--------------|------------------|
| CS 30331-0126 | 21 00 33.5 | -24 59 59 | 21.9 | -39.2 | 12.740 | 0.031 | 0.344 | 0.038 | 0.089 | 0.051 | 0.826 | 0.080 | 0.331 | 0.031 |
| CS 30332-0037 | 22 44 13.6 | +11 57 45 | 81.3 | -40.4 | 12.632 | 0.026 | 0.303 | 0.013 | 0.151 | 0.011 | 0.427 | 0.033 | 0.468 | 0.031 |
| CS 30332-0060 | 22 38 18.2 | +12 01 12 | 79.9 | -39.4 | 12.900 | 0.023 | 0.213 | 0.011 | 0.146 | 0.005 | 0.763 | 0.011 | 0.317 | 0.031 |
| CS 30332-0112 | 22 31 41.6 | +07 28 01 | 74.4 | -41.8 | 12.561 | 0.005 | 0.296 | 0.006 | 0.093 | 0.009 | 0.874 | 0.010 | 0.362 | 0.031 |
| CS 30338-0088 | 23 13 54.2 | +10 42 32 | 88.6 | -45.5 | 14.221 | 0.041 | 0.448 | 0.056 | 0.100 | 0.086 | 0.361 | 0.120 | 0.633 | 0.031 |
| CS 30338-0121 | 23 10 08.3 | +07 36 07 | 85.1 | -47.6 | 15.149 | 0.088 | 0.424 | 0.088 | 0.030 | 0.094 | 0.206 | 0.098 | 0.184 | 0.031 |
| CS 30494-0003 | 03 56 58.6 | -21 15 17 | 215.5 | -47.0 | 12.397 | 0.014 | 0.480 | 0.026 | 0.035 | 0.038 | 0.236 | 0.031 | 0.300 | 0.031 |
| CS 31061-0010 | 02 42 49.1 | +06 22 20 | 166.4 | -46.4 | 13.164 | 0.009 | 0.459 | 0.013 | 0.143 | 0.020 | 0.317 | 0.020 | 0.618 | 0.031 |
| CS 31061-0020 | 02 38 04.6 | +04 38 46 | 166.6 | -48.5 | 13.166 | 0.014 | 0.340 | 0.023 | 0.079 | 0.016 | 0.813 | 0.001 | 0.345 | 0.031 |
| CS 31061-0028 | 02 36 23.3 | +04 25 22 | 166.3 | -49.0 | 12.441 | 0.001 | 0.380 | 0.006 | 0.101 | 0.008 | 0.425 | 0.017 | 0.417 | 0.031 |
| CS 31061-0032 | 02 36 07.0 | +03 06 08 | 167.5 | -50.0 | 13.903 | 0.013 | 0.318 | 0.014 | 0.037 | 0.032 | 0.313 | 0.034 | 0.210 | 0.031 |
| CS 31061-0040 | 02 34 36.0 | +03 35 38 | 166.5 | -49.9 | 11.425 | 0.009 | 0.357 | 0.010 | 0.042 | 0.010 | 0.366 | 0.018 | 0.274 | 0.031 |
| CS 31061-0047 | 02 33 25.8 | +07 16 59 | 162.9 | -47.1 | 11.736 | 0.009 | 0.302 | 0.001 | 0.117 | 0.011 | 0.738 | 0.005 | 0.391 | 0.031 |
| CS 31061-0057 | 02 33 20.2 | +02 33 26 | 167.1 | -50.9 | 14.149 | 0.025 | 0.410 | 0.028 | -0.080 | 0.032 | 0.822 | 0.017 | 0.058 | 0.031 |
| CS 31061-0062 | 02 30 12.3 | +05 31 52 | 163.4 | -49.0 | 13.892 | 0.071 | 0.447 | 0.072 | -0.016 | 0.082 | 0.304 | 0.057 | 0.193 | 0.031 |
| CS 31061-0064 | 02 31 39.4 | +05 58 59 | 163.5 | -48.4 | 13.288 | 0.025 | 0.361 | 0.036 | 0.117 | 0.077 | 0.310 | 0.116 | 0.432 | 0.031 |
| CS 31061-0072 | 02 26 37.9 | +04 05 53 | 163.6 | -50.7 | 14.001 | 0.018 | 0.351 | 0.020 | 0.094 | 0.036 | 0.192 | 0.047 | 0.315 | 0.031 |
| CS 31061-0079 | 02 26 01.3 | +05 09 15 | 162.4 | -49.9 | 14.207 | 0.049 | 0.448 | 0.049 | 0.068 | 0.051 | 0.445 | 0.191 | 0.421 | 0.031 |
| CS 31061-0084 | 02 23 52.4 | +05 24 44 | 161.5 | -50.0 | 10.607 | 0.032 | 0.302 | 0.001 | 0.118 | 0.003 | 0.460 | 0.021 | 0.414 | 0.031 |
| CS 31061-0085 | 02 23 56.0 | +05 21 38 | 161.6 | -50.0 | 13.191 | 0.006 | 0.333 | 0.006 | 0.146 | 0.023 | 0.395 | 0.034 | 0.465 | 0.031 |
| CS 31061-0091 | 02 25 33.6 | +03 14 35 | 164.0 | -51.5 | 13.486 | 0.019 | 0.223 | 0.037 | 0.040 | 0.056 | 0.95: | 0.051 | 0.182 | 0.031 |
| CS 31063-0009 | 02 41 45.4 | +05 40 52 | 166.7 | -47.1 | 13.661 | 0.010 | 0.433 | 0.026 | 0.058 | 0.047 | 0.346 | 0.101 | 0.390 | 0.031 |
| CS 31063-0017 | 02 40 29.8 | +02 38 51 | 169.2 | -49.7 | 14.889 | 0.018 | 0.251 | 0.024 | -0.041 | 0.033 | 0.430 | 0.034 | 0.392 | 0.031 |
| CS 31063-0025 | 02 38 35.7 | +07 01 12 | 164.6 | -46.6 | 13.950 | 0.013 | 0.369 | 0.015 | 0.200 | 0.087 | 0.179 | 0.170 | 0.568 | 0.031 |
| CS 31063-0046 | 02 34 43.2 | +05 20 06 | 165.0 | -48.5 | 14.724 | 0.045 | 0.150 | 0.047 | 0.028 | 0.052 | 1.23: | 0.056 | 0.252 | 0.031 |
| CS 31063-0091 | 02 25 52.1 | +04 37 35 | 162.8 | -50.3 | 13.765 | 0.038 | 0.430 | 0.028 | 0.198 | 0.019 | 0.238 | 0.093 | 0.634 | 0.031 |
| CS 31066-0008 | 02 05 01.9 | -18 48 50 | 190.8 | -70.6 | 13.703 | 0.019 | 0.325 | 0.024 | 0.019 | 0.037 | 0.458 | 0.044 | 0.215 | 0.031 |
| CS 31067-0002 | 03 24 09.3 | +03 37 24 | 179.5 | -41.4 | 14.202 | 0.016 | 0.432 | 0.024 | 0.100 | 0.100 | 0.321 | 0.145 | 0.525 | 0.031 |
| CS 31067-0019 | 03 20 45.2 | +04 28 16 | 177.9 | -41.5 | 12.597 | 0.000 | 0.382 | 0.010 | 0.023 | 0.025 | 0.275 | 0.031 | 0.217 | 0.031 |
| CS 31067-0025 | 03 17 11.5 | +05 20 39 | 176.2 | -41.5 | 14.301 | 0.001 | 0.219 | 0.024 | 0.059 | 0.038 | 0.299 | 0.044 | 0.181 | 0.031 |
| CS 31067-0039 | 03 13 03.8 | +05 45 42 | 174.9 | -41.9 | 13.691 | 0.002 | 0.633 | 0.008 | 0.055 | 0.034 | 0.554 | 0.078 | 0.608 | 0.031 |
| CS 31067-0047 | 03 12 47.5 | +03 21 57 | 177.1 | -43.7 | 14.007 | 0.008 | 0.471 | 0.008 | 0.195 | 0.095 | 0.389 | 0.139 | 0.735 | 0.031 |
| CS 31067-0078 | 03 06 08.4 | +03 41 27 | 175.2 | -44.6 | 13.430 | 0.000 | 0.421 | 0.010 | 0.137 | 0.040 | 0.379 | 0.053 | 0.498 | 0.031 |
| CS 31069-0048 | 00 15 40.4 | +04 00 32 | 107.4 | -57.6 | 14.329 | 0.005 | 0.612 | 0.055 | -0.002 | 0.086 | 0.480 | 0.078 | 0.597 | 0.031 |
| CS 31069-0092 | 00 06 18.4 | +03 54 21 | 103.1 | -57.0 | 14.454 | 0.008 | 0.411 | 0.053 | 0.230 | 0.077 | 0.082 | 0.061 | 0.493 | 0.031 |
| CS 31069-0108 | 00 10 01.1 | +03 56 40 | 104.8 | -57.3 | 10.818 | 0.015 | 0.213 | 0.002 | 0.139 | 0.005 | 0.832 | 0.012 | 0.365 | 0.031 |
| CS 31070-0058 | 00 11 59.8 | +05 35 06 | 106.5 | -55.8 | 13.517 | 0.004 | 0.562 | 0.004 | 0.067 | 0.021 | 0.414 | 0.035 | 0.486 | 0.031 |
| CS 31070-0073 * | 00 06 17.8 | +05 09 34 | 103.8 | -55.8 | 14.398 | 0.005 | 0.310 | 0.039 | 0.154 | 0.055 | 0.238 | 0.047 | 0.329 | 0.031 |
| CS 31070-0074 | 00 06 26.7 | +05 18 30 | 104.0 | -55.7 | 14.711 | 0.009 | 0.279 | 0.024 | 0.236 | 0.051 | 0.240 | 0.080 | 0.458 | 0.031 |
| CS 31071-0005 | 03 23 22.4 | +14 15 13 | 169.8 | -34.0 | 13.079 | 0.013 | 0.723 | 0.018 | 0.040 | 0.051 | 0.409 | 0.067 | 0.504 | 0.031 |

TABLE 3. (continued)

| BPS ID (1) | RA (2) | (1950) DEC (3) | l (4) | b (5) | V (6) | σ_V (7) | $b-y$ (8) | σ_{by} (9) | m_1 (10) | σ_{m_1} (11) | c_1 (12) | σ_{c_1} (13) | hk (14) | σ (15) |
|-----------------|------------|----------------------|------------|------------|------------|-------------------|--------------|----------------------|---------------|------------------------|---------------|------------------------|--------------|------------------|
| CS 31071-0023 | 03 19 19.6 | +13 02 45 | 169.9 | -35.6 | 13.743 | 0.015 | 0.549 | 0.027 | 0.037 | 0.090 | 0.627 | 0.167 | 0.476 | 0.015 |
| CS 31071-0043 | 03 15 24.2 | +13 47 51 | 168.4 | -35.6 | 13.934 | 0.005 | 0.397 | 0.047 | 0.139 | 0.092 | 0.351 | 0.105 | 0.514 | 0.015 |
| CS 31071-0044 | 03 14 53.7 | +13 56 52 | 168.2 | -35.6 | 12.432 | 0.006 | 0.386 | 0.003 | 0.089 | 0.009 | 0.744 | 0.018 | 0.404 | 0.015 |
| CS 31071-0064 | 03 10 35.7 | +12 12 52 | 168.6 | -37.6 | 13.128 | 0.004 | 0.673 | 0.006 | 0.130 | 0.044 | 0.461 | 0.064 | 0.700 | 0.015 |
| CS 31071-0071 | 03 11 46.5 | +15 43 34 | 166.1 | -34.7 | 13.902 | 0.030 | 0.389 | 0.031 | 0.161 | 0.035 | 0.373 | 0.088 | 0.462 | 0.015 |
| CS 31074-0011 | 02 51 55.3 | +10 59 00 | 165.0 | -41.4 | 12.852 | 0.007 | 0.598 | 0.011 | 0.118 | 0.014 | 0.598 | 0.030 | 0.692 | 0.015 |
| CS 31074-0038 * | 02 43 14.4 | +07 20 54 | 165.7 | -45.6 | 14.545 | 0.057 | 0.329 | 0.013 | -0.007 | 0.013 | 0.95: | 0.007 | 0.161 | 0.015 |
| CS 31074-0049 | 02 43 01.2 | +11 36 49 | 162.1 | -42.2 | 13.794 | 0.019 | 0.417 | 0.029 | 0.080 | 0.036 | 0.380 | 0.079 | 0.436 | 0.015 |
| CS 31074-0080 | 02 37 19.4 | +07 49 32 | 163.6 | -46.1 | 12.319 | 0.006 | 0.221 | 0.006 | 0.180 | 0.006 | 0.844 | 0.006 | 0.415 | 0.015 |
| CS 31074-0081 | 02 37 16.1 | +07 43 11 | 163.6 | -46.2 | 14.435 | 0.013 | 0.294 | 0.053 | 0.151 | 0.119 | 0.400 | 0.141 | 0.550 | 0.015 |
| CS 31074-0082 | 02 38 15.9 | +07 41 48 | 164.0 | -46.1 | 12.368 | 0.002 | 0.194 | 0.005 | 0.155 | 0.009 | 0.92: | 0.018 | 0.409 | 0.015 |
| CS 31074-0083 | 02 36 50.5 | +07 28 55 | 163.7 | -46.4 | 14.027 | 0.033 | 0.362 | 0.036 | 0.007 | 0.057 | 0.576 | 0.081 | 0.356 | 0.015 |
| CS 31074-0084 | 02 37 01.3 | +07 11 06 | 164.0 | -46.7 | 13.706 | 0.005 | 0.458 | 0.010 | 0.294 | 0.014 | 0.143 | 0.012 | 0.793 | 0.015 |
| CS 31074-0101 | 02 33 53.2 | +09 02 55 | 161.6 | -45.6 | 13.473 | 0.016 | 0.477 | 0.031 | 0.212 | 0.049 | 0.337 | 0.051 | 0.694 | 0.015 |
| CS 31074-0105 | 02 33 51.6 | +07 36 58 | 162.7 | -46.8 | 14.182 | 0.009 | 0.440 | 0.040 | 0.050 | 0.086 | 0.102 | 0.167 | 0.326 | 0.015 |
| CS 31079-0002 | 03 01 47.6 | +03 33 50 | 174.2 | -45.5 | 13.510 | 0.007 | 0.498 | 0.009 | 0.112 | 0.021 | 0.375 | 0.035 | 0.608 | 0.015 |
| CS 31079-0004 | 03 02 28.2 | +03 40 46 | 174.3 | -45.3 | 13.141 | 0.019 | 0.343 | 0.026 | 0.085 | 0.043 | 0.301 | 0.046 | 0.273 | 0.015 |
| CS 31079-0014 | 03 01 08.7 | +07 16 05 | 170.5 | -42.8 | 13.424 | 0.018 | 0.541 | 0.026 | 0.372 | 0.042 | 0.229 | 0.103 | 0.927 | 0.015 |
| CS 31079-0021 | 03 00 55.7 | +04 01 01 | 173.5 | -45.3 | 14.044 | 0.002 | 0.411 | 0.006 | 0.159 | 0.048 | 0.241 | 0.067 | 0.482 | 0.015 |
| CS 31079-0028 | 02 58 21.7 | +06 04 42 | 170.9 | -44.2 | 13.211 | 0.003 | 0.547 | 0.004 | -0.005 | 0.006 | 0.251 | 0.008 | 0.285 | 0.015 |
| CS 31079-0029 | 02 57 59.7 | +06 21 11 | 170.6 | -44.1 | 13.419 | 0.013 | 0.488 | 0.012 | 0.070 | 0.009 | 0.399 | 0.003 | 0.500 | 0.015 |
| CS 31079-0035 | 02 56 33.9 | +07 05 47 | 169.5 | -43.7 | 13.650 | 0.029 | 0.364 | 0.032 | 0.098 | 0.047 | 0.672 | 0.048 | 0.427 | 0.015 |
| CS 31079-0040 | 02 56 09.9 | +03 17 49 | 173.0 | -46.6 | 13.211 | 0.005 | 0.370 | 0.034 | 0.122 | 0.064 | 0.510 | 0.071 | 0.535 | 0.015 |
| CS 31079-0048 | 02 52 47.5 | +06 04 08 | 169.4 | -45.1 | 13.846 | 0.004 | 0.500 | 0.015 | 0.072 | 0.032 | 0.465 | 0.045 | 0.561 | 0.015 |
| CS 31079-0053 | 02 52 55.5 | +04 01 30 | 171.4 | -46.6 | 13.024 | 0.001 | 0.308 | 0.002 | 0.103 | 0.006 | 0.563 | 0.027 | 0.382 | 0.015 |
| CS 31082-0001 | 01 27 04.7 | -16 16 17 | 163.3 | -75.8 | 11.674 | 0.006 | 0.542 | 0.009 | 0.087 | 0.021 | 0.327 | 0.026 | 0.414 | 0.015 |
| CS 31082-0036 | 01 22 19.2 | -12 05 48 | 151.7 | -72.8 | 13.202 | 0.014 | 0.379 | 0.022 | -0.015 | 0.029 | 0.395 | 0.020 | 0.215 | 0.015 |
| CS 31082-0050 | 01 19 59.2 | -14 18 25 | 153.4 | -75.1 | 13.558 | 0.016 | 0.373 | 0.053 | 0.087 | 0.073 | 0.486 | 0.069 | 0.340 | 0.015 |
| CS 31084-0021 | 03 27 09.4 | +08 43 33 | 175.3 | -37.4 | 13.620 | 0.009 | 0.603 | 0.064 | 0.161 | 0.010 | 0.121 | 0.158 | 0.609 | 0.015 |
| CS 31084-0022 | 03 27 17.4 | +09 15 58 | 174.9 | -37.0 | 11.535 | 0.002 | 0.373 | 0.005 | 0.023 | 0.008 | 0.374 | 0.008 | 0.232 | 0.015 |
| CS 31084-0042 | 03 23 20.1 | +11 49 43 | 171.8 | -35.8 | 12.341 | 0.012 | 0.555 | 0.011 | 0.039 | 0.006 | 1.05: | 0.036 | 0.360 | 0.015 |
| CS 31084-0052 | 03 18 14.6 | +07 47 43 | 174.2 | -39.6 | 13.238 | 0.004 | 0.634 | 0.006 | 0.143 | 0.049 | 0.369 | 0.072 | 0.667 | 0.015 |
| CS 31084-0089 | 03 11 36.3 | +09 58 55 | 170.7 | -39.1 | 12.793 | 0.009 | 0.593 | 0.009 | 0.045 | 0.018 | 0.604 | 0.034 | 0.435 | 0.015 |
| CS 31089-0061 | 01 28 45.6 | -14 26 34 | 160.5 | -74.1 | 15.118 | 0.042 | 0.354 | 0.074 | 0.051 | 0.096 | 0.346 | 0.069 | 0.216 | 0.015 |
| CS 31090-0015 | 01 40 51.9 | -14 55 52 | 169.7 | -72.7 | 13.794 | 0.031 | 0.364 | 0.035 | 0.071 | 0.039 | 0.322 | 0.020 | 0.389 | 0.015 |
| CS 31090-0050 | 01 33 52.8 | -15 05 20 | 165.5 | -73.9 | 9.956 | 0.001 | 0.216 | 0.006 | 0.166 | 0.026 | 0.717 | 0.036 | 0.407 | 0.015 |
| CS 31090-0053 | 01 32 38.2 | -14 25 39 | 163.3 | -73.5 | 13.615 | 0.004 | 0.370 | 0.039 | 0.054 | 0.073 | 0.269 | 0.080 | 0.321 | 0.015 |
| CS 31090-0082 | 01 27 05.7 | -17 57 42 | 167.9 | -77.1 | 13.716 | 0.005 | 0.363 | 0.021 | 0.081 | 0.055 | 0.398 | 0.079 | 0.478 | 0.015 |
| CS 31090-0084 | 01 25 49.2 | -18 28 16 | 168.4 | -77.7 | 13.753 | 0.021 | 0.457 | 0.036 | 0.249 | 0.054 | 0.305 | 0.133 | 0.908 | 0.015 |
| CS 31090-0086 | 01 26 14.3 | -17 17 32 | 165.3 | -76.7 | 11.092 | 0.001 | 0.332 | 0.002 | 0.046 | 0.003 | 0.303 | 0.003 | 0.219 | 0.015 |

TABLE 3. (continued)

| BPS ID (1) | RA (1950) (2) | DEC (3) | l (4) | b (5) | V (6) | σ_V (7) | $b - y$ (8) | σ_{by} (9) | m_1 (10) | σ_{m_1} (11) | c_1 (12) | σ_{c_1} (13) | hk (14) | σ_{hk} (15) |
|---------------|------------------|------------|------------|------------|------------|-------------------|----------------|----------------------|---------------|------------------------|---------------|------------------------|--------------|-----------------------|
| CS 31090-0099 | 01 24 25.6 | -17 50 22 | 165.3 | -77.4 | 13.404 | 0.010 | 0.499 | 0.027 | 0.105 | 0.038 | 0.333 | 0.028 | 0.454 | 0.03 |

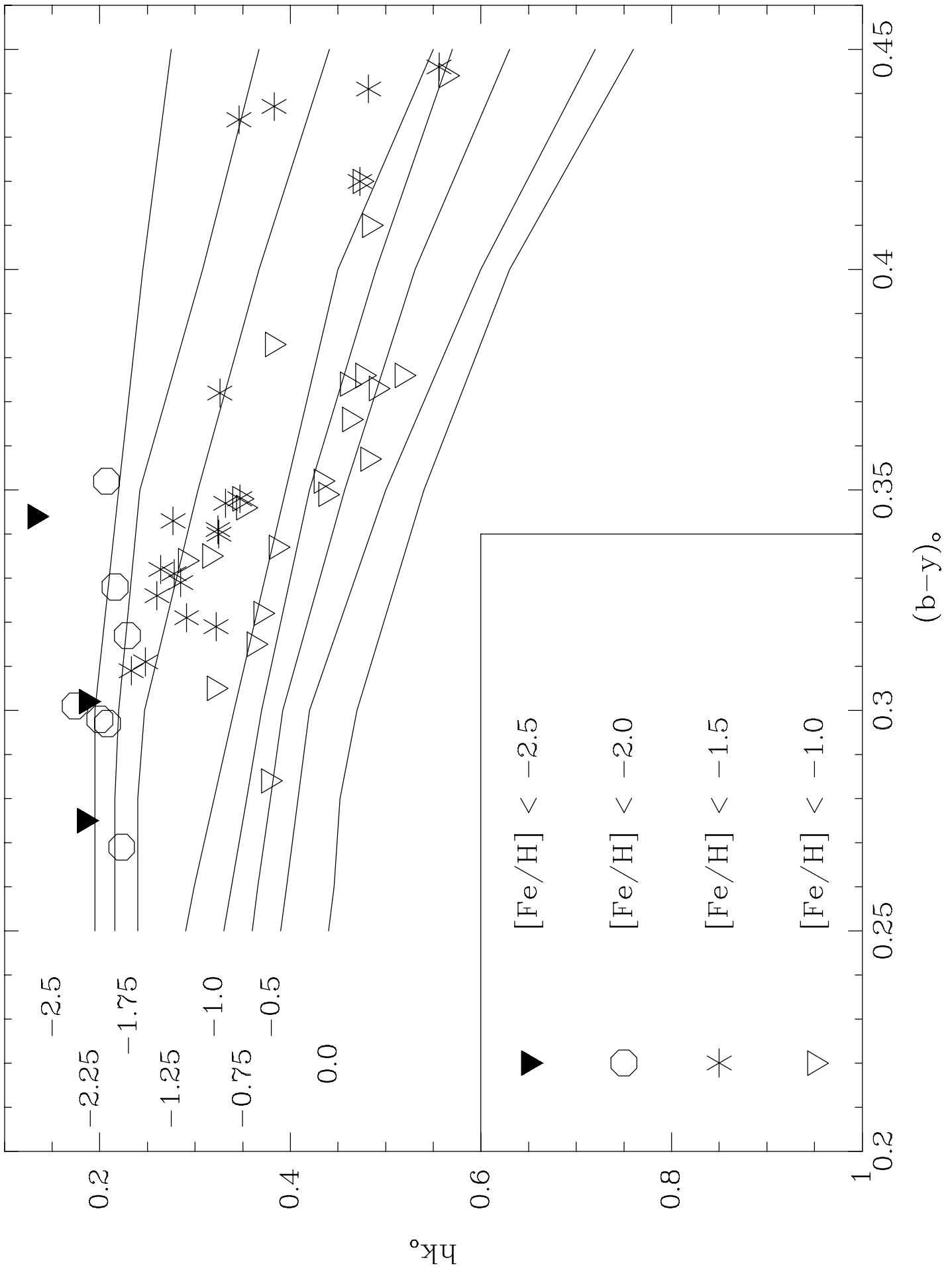


TABLE 4. Program Stars With Duplicate HK Survey Identifications

| Cataloged Star Name | Alternate Name 1 | Alternate Name 2 |
|---------------------|------------------|------------------|
| BS 15625–0030 | BS 16022–0002 | ... |
| BS 16023–0046 | BS 15623–0062 | BS 16554–0041 |
| BS 16026–0046 | BS 16031–0022 | ... |
| BS 16032–0033 | BS 16466–0030 | ... |
| BS 16033–0081 | BS 16479–0035 | ... |
| BS 16090–0080 | BS 16083–0005 | ... |
| BS 16467–0062 | BS 16934–0060 | ... |
| BS 16468–0013 | BS 17448–0026 | ... |
| BS 16474–0093 | BS 16553–0008 | ... |
| BS 16477–0003 | CS 30317–0084 | ... |
| BS 16477–0038 | CS 30317–0039 | ... |
| BS 16479–0015 | BS 16543–0026 | ... |
| BS 16479–0037 | BS 16033–0082 | BS 16543–0058 |
| BS 16541–0052 | CS 30306–0073 | ... |
| BS 16543–0057 | BS 16033–0080 | BS 16479–0036 |
| BS 16543–0068 | BS 16479–0046 | ... |
| BS 16545–0024 | BS 16553–0057 | ... |
| BS 16545–0059 | BS 17140–0013 | ... |
| BS 16546–0098 | CS 22883–0049 | ... |
| BS 16549–0057 | BS 16920–0013 | ... |
| BS 16549–0082 | BS 16928–0003 | ... |
| BS 16924–0026 | BS 16078–0020 | ... |
| BS 16929–0035 | BS 16938–0053 | ... |
| BS 16945–0054 | BS 17137–0020 | ... |
| BS 17137–0033 | BS 16945–0082 | ... |
| BS 17448–0016 | BS 17136–0030 | ... |
| BS 17571–0087 | BS 17585–0121 | ... |
| CS 29522–0064 | CS 30333–0062 | ... |
| CS 30317–0056 | BS 16477–0021 | ... |
| CS 30325–0110 | BS 16968–0010 | ... |
| CS 30331–0029 | CS 30319–0019 | ... |
| CS 31061–0032 | CS 31063–0035 | ... |
| CS 31061–0040 | CS 31063–0050 | ... |
| CS 31061–0057 | CS 31063–0056 | ... |
| CS 31061–0062 | CS 31063–0069 | ... |
| CS 31061–0072 | CS 31063–0092 | ... |
| CS 31063–0025 | CS 31074–0066 | ... |
| CS 31070–0074 | CS 31069–0094 | ... |
| CS 31079–0004 | CS 31078–0002 | ... |
| CS 31079–0028 | CS 31078–0018 | ... |
| CS 31082–0036 | CS 22174–0026 | ... |
| CS 31082–0050 | CS 31081–0025 | ... |
| CS 31084–0022 | CS 31083–0022 | ... |
| CS 31090–0099 | CS 31089–0081 | ... |

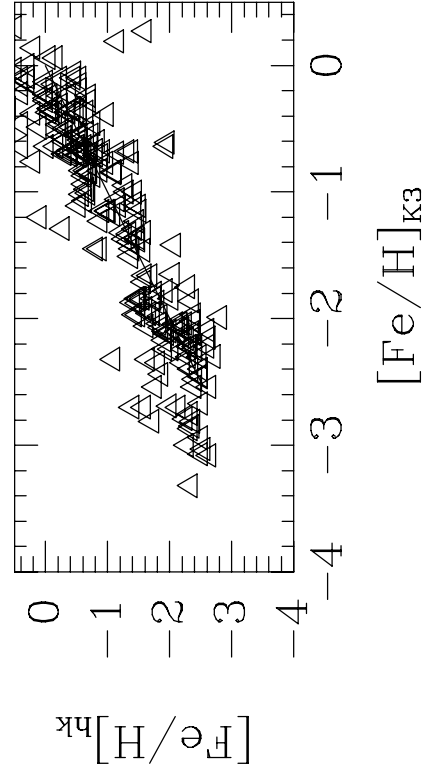
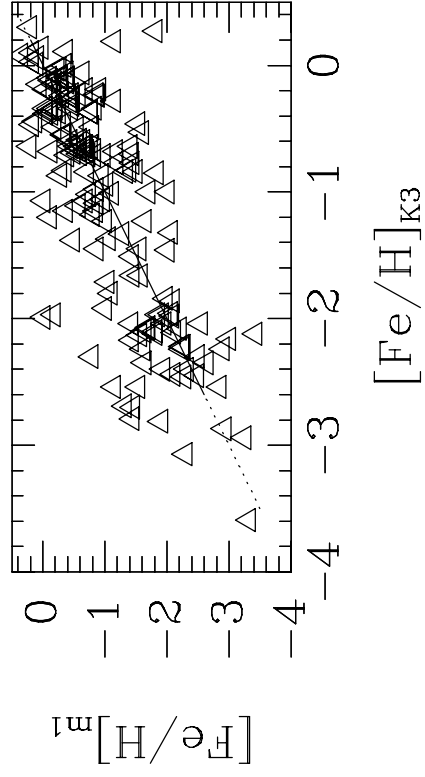
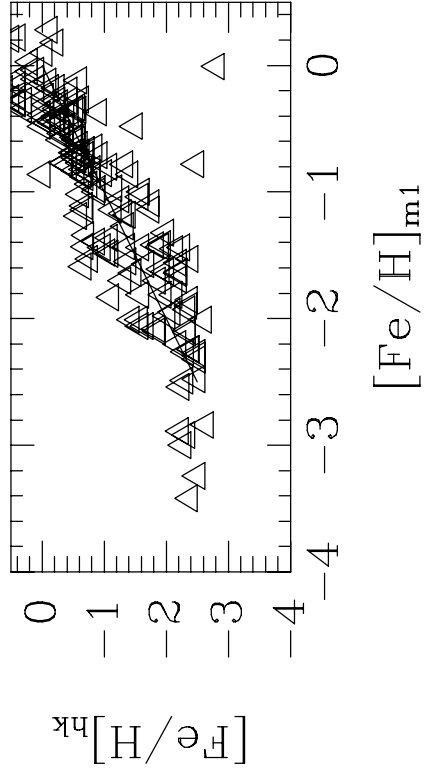


TABLE 5A. Reddening Corrected Indices and Abundance Estimates for Red Giants

| BPS ID (1) | V_o (2) | $(b-y)_o$ (3) | m_0 (4) | c_0 (5) | hk_o (6) | $E(b-y)$ (7) | $[\text{Fe}/\text{H}]_{m1}$ (8) | σ_{Fe} (9) | $[\text{Fe}/\text{H}]_{hk}$ (10) | σ_{Fe} (11) | $[\text{Fe}/\text{H}]_{K3}$ (12) | σ_{Fe} (13) |
|---------------|--------------|------------------|--------------|--------------|---------------|-----------------|------------------------------------|----------------------|-------------------------------------|-----------------------|-------------------------------------|-----------------------|
| BS 16032-0038 | 13.207 | 0.594 | 0.269 | 0.387 | 0.877 | 0.007 | ≥ -1.00 | 0.23 | -1.34 | 0.21 | -1.39 | 0.40 |
| BS 16033-0081 | 13.370 | 0.550 | 0.097 | 0.375 | 0.421 | 0.000 | -2.22 | 0.16 | -2.44 | 0.21 | -2.84 | 0.15 |
| BS 16080-0054 | 12.780 | 0.562 | 0.064 | 0.474 | 0.374 | 0.002 | -2.59 | 0.18 | -2.77 | 0.21 | -2.89 | 0.15 |
| BS 16083-0139 | 13.868 | 0.473 | 0.094 | 0.438 | 0.482 | 0.000 | -1.91 | 0.22 | -1.90 | 0.20 | -1.77 | 0.26 |
| BS 16084-0160 | 13.135 | 0.610 | 0.079 | 0.472 | 0.418 | 0.005 | -2.54 | 0.18 | -2.77 | 0.21 | -3.22 | 0.15 |
| BS 16085-0050 | 12.159 | 0.562 | 0.037 | 0.430 | 0.314 | 0.000 | ≤ -2.70 | ... | -3.13 | 0.22 | -3.02 | 0.15 |
| BS 16089-0013 | 13.325 | 0.540 | 0.084 | 0.345 | 0.391 | 0.000 | -2.41 | 0.19 | -2.57 | 0.21 | -2.69 | 0.15 |
| BS 16470-0007 | 13.867 | 0.513 | 0.073 | 0.323 | 0.381 | 0.022 | -2.40 | 0.23 | -2.42 | 0.25 | -2.71 | 0.17 |
| BS 16472-0018 | 13.448 | 0.513 | 0.066 | 0.366 | 0.343 | 0.026 | -2.47 | 0.27 | -2.59 | 0.28 | -2.41 | 0.15 |
| BS 16473-0080 | 14.059 | 0.477 | 0.083 | 0.492 | 0.654 | 0.019 | -2.09 | 0.32 | -1.23 | 0.22 | -0.67 | 0.34 |
| BS 16477-0003 | 14.151 | 0.548 | 0.050 | 0.322 | 0.265 | 0.010 | -2.69 | 0.26 | -3.40 | 0.23 | -3.28 | 0.19 |
| BS 16477-0038 | 12.671 | 0.484 | 0.067 | 0.453 | 0.358 | 0.007 | -2.39 | 0.32 | -2.39 | 0.28 | -2.53 | 0.19 |
| BS 16543-0092 | 14.148 | 0.664 | -0.150 | 0.720 | 0.229 | 0.002 | ≤ -2.70 | ... | ≤ -3.40 | ... | -2.61 | 0.18 |
| BS 16545-0043 | 13.214 | 0.530 | 0.226 | 0.428 | 0.869 | 0.000 | ≥ -1.00 | 0.27 | -0.65 | 0.23 | -0.79 | 0.39 |
| BS 16548-0070 | 13.655 | 0.490 | 0.041 | 0.286 | 0.349 | 0.001 | ≤ -2.70 | ... | -2.44 | 0.21 | -2.35 | 0.15 |
| BS 16934-0002 | 12.664 | 0.618 | 0.124 | 0.518 | 0.516 | 0.036 | -2.15 | 0.32 | -2.44 | 0.22 | -2.59 | 0.15 |
| BS 16981-0009 | 13.611 | 0.454 | 0.035 | 0.279 | 0.239 | 0.012 | ≤ -2.70 | ... | -2.90 | 0.25 | -2.54 | 0.21 |
| BS 16986-0072 | 13.264 | 0.667 | 0.226 | 0.533 | 0.928 | 0.024 | -1.52 | 0.37 | -1.59 | 0.26 | -0.42 | 0.32 |
| BS 17438-0139 | 14.191 | 0.401 | 0.031 | 0.415 | 0.306 | 0.034 | ≤ -2.70 | ... | -2.19 | 0.48 | -1.62 | 0.15 |
| BS 17444-0055 | 13.871 | 0.489 | -0.030 | 0.524 | ... | 0.026 | ≤ -2.70 | ... | ... | ... | -0.88 | 0.36 |
| BS 17571-0001 | 12.311 | 0.448 | 0.141 | 0.567 | 0.550 | 0.166 | -1.05 | 0.64 | -1.40 | 0.28 | -1.75: | 0.24 |
| BS 17571-0087 | 12.436 | 0.459 | 0.088 | 0.517 | 0.448 | 0.184 | -1.92 | 0.38 | -1.95 | 0.31 | -2.01: | 0.15 |
| BS 17571-0096 | 12.917 | 0.419 | 0.072 | 0.677 | 0.387 | 0.152 | -1.93 | 0.51 | -1.93 | 0.34 | -2.18: | 0.15 |
| BS 17571-0119 | 12.821 | 0.551 | 0.134 | 0.462 | 0.663 | 0.155 | -1.82 | 0.44 | -1.74 | 0.28 | -1.20: | 0.38 |
| BS 17574-0019 | 12.506 | 0.410 | 0.079 | 0.636 | 0.467 | 0.164 | -1.75 | 0.74 | -1.42 | 0.58 | -1.58 | 0.20 |
| BS 17574-0098 | 11.636 | 0.483 | 0.155 | 0.378 | 0.671 | 0.139 | -1.18 | 0.27 | -1.21 | 0.20 | -0.48 | 0.33 |
| BS 17575-0078 | 12.681 | 0.404 | 0.140 | 0.554 | 0.498 | 0.192 | ≥ -1.00 | 0.24 | -1.28 | 0.21 | -1.62: | 0.15 |
| BS 17575-0168 | 12.760 | 0.326 | 0.069 | 0.263 | 0.258 | ≤ 0.155 | ≤ -1.93 | 0.43 | ≤ -1.90 | 0.34 | -2.10 | 0.15 |
| BS 17578-0100 | 11.893 | 0.448 | 0.179 | 0.383 | 0.704 | 0.056 | ≥ -1.00 | 0.32 | -0.64 | 0.23 | ... | ... |
| BS 17580-0016 | 12.449 | 0.419 | 0.142 | 0.495 | 0.516 | 0.177 | ≥ -1.00 | 0.50 | -1.31 | 0.65 | ... | ... |
| BS 17580-0064 | 12.747 | 0.378 | 0.120 | 0.287 | 0.455 | 0.130 | ≥ -1.00 | 0.46 | -1.31 | 0.54 | -0.84 | 0.16 |
| BS 17583-0012 | 11.248 | 0.558 | 0.269 | 0.373 | 0.908 | 0.058 | ≥ -1.00 | 0.69 | -0.77 | 0.32 | -1.80: | 0.32 |
| BS 17584-0019 | 12.386 | 0.405 | 0.120 | 0.363 | 0.540 | 0.033 | ≥ -1.00 | 0.37 | -1.15 | 0.77 | -0.44 | 0.20 |
| BS 17584-0032 | 12.783 | 0.415 | 0.046 | 0.343 | 0.375 | 0.029 | -2.46 | 0.31 | -1.96 | 0.28 | -1.67 | 0.18 |
| BS 17585-0080 | 12.295 | 0.608 | 0.048 | 0.550 | 0.450 | 0.201 | ≤ -2.70 | ... | -2.63 | 0.27 | -2.14 | 0.27 |
| BS 17585-0111 | 11.766 | 0.567 | 0.076 | 0.510 | 0.506 | 0.195 | -2.49 | 0.18 | -2.25 | 0.21 | -1.80: | 0.32 |
| CS 22174-0012 | 14.863 | 0.517 | -0.135 | 0.615 | 0.085 | 0.028 | ≤ -2.70 | ... | ≤ -3.40 | ... | -2.59: | 0.15 |
| CS 22878-0101 | 13.456 | 0.559 | 0.067 | 0.411 | 0.340 | 0.067 | -2.56 | 0.34 | -2.96 | 0.29 | -3.05 | 0.15 |
| CS 22950-0046 | 13.998 | 0.706 | -0.019 | 0.570 | 0.291 | 0.055 | ≤ -2.70 | ... | -3.27 | 0.30 | -3.54 | 0.15 |
| CS 22950-0153 | 13.519 | 0.441 | -0.001 | 0.362 | 0.273 | 0.048 | ≤ -2.70 | ... | -2.56 | 0.52 | -2.12 | 0.15 |
| CS 22952-0015 | 13.035 | 0.495 | 0.120 | 0.383 | 0.370 | 0.056 | -1.71 | 0.31 | -2.39 | 0.43 | -2.88 | 0.24 |
| CS 22957-0022 | 13.288 | 0.494 | 0.023 | 0.391 | 0.268 | 0.015 | ≤ -2.70 | ... | -2.92 | 0.27 | -2.72 | 0.20 |
| CS 22965-0029 | 13.569 | 0.412 | 0.038 | 0.499 | 0.287 | 0.044 | -2.58 | 0.44 | -2.34 | 0.39 | -2.40 | 0.16 |
| CS 29502-0009 | 13.635 | 0.492 | 0.062 | 0.300 | 0.331 | 0.030 | -2.47 | 0.68 | -2.51 | 0.59 | -2.55 | 0.15 |
| CS 29506-0019 | 14.276 | 0.476 | -0.001 | 0.378 | 0.094 | 0.019 | ≤ -2.70 | ... | ≤ -3.40 | ... | -2.55 | 0.19 |
| CS 29522-0042 | 13.715 | 0.467 | 0.056 | 0.313 | 0.465 | 0.040 | -2.48 | 0.62 | -1.93 | 0.25 | -1.66 | 0.27 |
| CS 29522-0092 | 13.602 | 0.414 | -0.015 | 0.562 | 0.322 | 0.037 | ≤ -2.70 | ... | -2.20 | 0.55 | -1.81 | 0.15 |
| CS 30338-0088 | 14.139 | 0.429 | 0.106 | 0.357 | 0.636 | 0.019 | ... | ... | -0.89 | 0.49 | -0.65 | 0.25 |
| CS 31061-0062 | 13.763 | 0.417 | -0.006 | 0.298 | 0.198 | 0.030 | ≤ -2.70 | ... | ... | ... | -2.56 | 0.24 |
| CS 31061-0079 | 14.078 | 0.418 | 0.078 | 0.439 | 0.426 | 0.030 | -1.83 | 0.62 | ... | ... | -1.81 | 0.15 |

TABLE 5A. (continued)

| BPS ID (1) | V_o (2) | $(b-y)_o$ (3) | m_0 (4) | c_0 (5) | hk_o (6) | $E(b-y)$ (7) | $[\text{Fe}/\text{H}]_{m1} \sigma_{Fe}$ (8) (9) | $[\text{Fe}/\text{H}]_{hk} \sigma_{Fe}$ (10) (11) | $[\text{Fe}/\text{H}]_{K3} \sigma_{Fe}$ (12) (13) |
|---------------|--------------|------------------|--------------|--------------|---------------|-----------------|--|--|--|
| CS 31067-0039 | 13.209 | 0.521 | 0.091 | 0.532 | 0.625 | 0.112 | -2.18 0.39 | -1.69 0.22 | -1.39 0.33 |
| CS 31069-0048 | 14.273 | 0.599 | 0.002 | 0.477 | 0.599 | 0.013 | | -2.09 0.39 | -1.39 0.40 |
| CS 31070-0058 | 13.414 | 0.538 | 0.075 | 0.409 | 0.490 | 0.024 | -2.44 0.26 | -2.18 0.20 | -2.34 0.15 |
| CS 31071-0005 | 12.460 | 0.579 | 0.086 | 0.380 | 0.526 | 0.144 | -2.44 0.49 | -2.24 0.24 | -2.08 0.27 |
| CS 31071-0064 | 12.513 | 0.530 | 0.176 | 0.432 | 0.722 | 0.143 | -1.29 0.61 | -1.43 0.24 | |
| CS 31074-0011 | 12.426 | 0.499 | 0.150 | 0.578 | 0.707 | 0.099 | -1.37 0.26 | -1.21 0.22 | -0.46 0.35 |
| CS 31079-0002 | 13.243 | 0.436 | 0.132 | 0.363 | 0.618 | 0.062 | -1.06 0.35 | | |
| CS 31079-0029 | 13.161 | 0.428 | 0.089 | 0.387 | 0.509 | 0.060 | -1.72 0.21 | -1.40 0.51 | |
| CS 31079-0048 | 13.622 | 0.448 | 0.089 | 0.455 | 0.569 | 0.052 | -1.84 0.43 | | |
| CS 31082-0001 | 11.674 | 0.542 | 0.087 | 0.327 | 0.414 | 0.000 | -2.32 0.26 | -2.43 0.21 | -2.78 0.15 |
| CS 31084-0052 | 12.752 | 0.521 | 0.179 | 0.346 | 0.685 | 0.113 | -1.19 0.70 | -1.50 0.20 | |
| CS 31084-0089 | 12.053 | 0.421 | 0.100 | 0.570 | 0.462 | 0.172 | -1.46 0.30 | -1.52 0.43 | -1.75: 0.16 |
| CS 31090-0099 | 13.400 | 0.498 | 0.105 | 0.333 | 0.454 | 0.001 | -1.89 0.49 | -2.13 0.24 | |

TABLE 5B. Reddening Corrected Indices & Abundance Estimates for Main Sequence Stars

| BPS ID (1) | V_o (2) | $(b-y)_o$ (3) | m_0 (4) | c_0 (5) | hk_o (6) | $E(b-y)$ (7) | $[\text{Fe}/\text{H}]_{m1} \sigma_{Fe}$ (8) (9) | $[\text{Fe}/\text{H}]_{hk} \sigma_{Fe}$ (10) (11) | $[\text{Fe}/\text{H}]_{K3} \sigma_{Fe}$ (12) (13) |
|---------------|--------------|------------------|--------------|--------------|---------------|-----------------|--|--|--|
| BS 15620-0037 | 13.651 | 0.251 | 0.139 | 0.263 | 0.341 | 0.074 | -0.37 0.39 | -0.91 0.31 | -1.15 0.19 |
| BS 15624-0040 | 13.541 | 0.330 | 0.075 | 0.243 | 0.273 | 0.000 | -1.42 0.46 | -1.83 0.38 | -2.04 0.15 |
| BS 15624-0067 | 13.088 | 0.415 | 0.039 | 0.242 | 0.243 | 0.000 | -2.27 0.17 | -2.5 0.3 | -2.46 0.21 |
| BS 15625-0006 | 13.684 | 0.358 | 0.070 | 0.368 | 0.379 | 0.007 | ... | -1.39 0.59 | ... |
| BS 15625-0945 | 12.814 | 0.394 | 0.116 | 0.332 | 0.539 | 0.000 | -1.14 0.19 | -0.69 0.26 | -0.28 0.20 |
| BS 16022-0034 | 12.060 | 0.439 | 0.020 | 0.229 | 0.231 | 0.012 | ... | -2.6 0.3 | ... |
| BS 16023-0022 | 14.731 | 0.357 | 0.123 | 0.127 | 0.359 | 0.000 | ... | -1.49 0.33 | -1.97 0.15 |
| BS 16023-0046 | 14.230 | 0.262 | 0.051 | 0.371 | 0.192 | 0.000 | ... | -2.5 0.7 | -3.03 0.19 |
| BS 16026-0018 | 13.859 | 0.323 | 0.096 | 0.268 | 0.305 | 0.012 | -1.04 0.39 | -1.58 0.31 | -1.71 0.15 |
| BS 16026-0019 | 14.164 | 0.369 | 0.069 | 0.203 | 0.308 | 0.013 | -1.43 0.20 | -1.91 0.28 | -2.17 0.15 |
| BS 16026-0044 | 14.089 | 0.350 | 0.195 | 0.250 | 0.571 | 0.010 | +0.22 0.54 | +0.4 0.6 | -0.64 0.15 |
| BS 16026-0046 | 13.966 | 0.323 | 0.069 | 0.339 | 0.286 | 0.014 | -1.57 0.33 | -1.68 0.31 | -1.66 0.15 |
| BS 16026-0060 | 14.254 | 0.427 | 0.116 | 0.054 | 0.327 | 0.003 | ... | -2.29 0.31 | -1.75 0.16 |
| BS 16026-0068 | 10.800 | 0.319 | 0.061 | 0.318 | 0.238 | 0.015 | -1.81 0.19 | -2.13 0.29 | -2.10 0.15 |
| BS 16031-0011 | 13.940 | 0.353 | 0.111 | 0.289 | 0.367 | 0.013 | -0.86 0.37 | -1.42 0.46 | -1.09 0.15 |
| BS 16032-0001 | 13.457 | 0.353 | 0.089 | 0.314 | 0.409 | 0.003 | -1.14 0.34 | -1.15 0.32 | +0.19 0.18 |
| BS 16032-0002 | 12.996 | 0.489 | 0.399 | 0.321 | 0.944 | 0.003 | -0.01 0.17 | ≥ 0.0 ... | -1.07: 0.35 |
| BS 16032-0003 | 14.209 | 0.446 | 0.297 | 0.278 | 0.835 | 0.003 | -0.07 0.17 | ≥ 0.5 ≥ 1.0 | ... |
| BS 16032-0012 | 14.321 | 0.331 | 0.128 | 0.367 | 0.461 | 0.010 | -0.59 0.48 | -0.56 0.43 | -0.59 0.15 |
| BS 16032-0033 | 14.702 | 0.333 | 0.095 | 0.169 | 0.320 | 0.004 | ... | -1.56 0.30 | -1.84 0.15 |
| BS 16032-0081 | 14.011 | 0.356 | 0.151 | 0.333 | 0.533 | 0.000 | -0.42 0.31 | -0.23 0.45 | -0.24 0.17 |
| BS 16033-0105 | 12.729 | 0.270 | 0.081 | 0.484 | 0.307 | 0.000 | -1.06 0.94 | -1.27 0.40 | -1.37 0.19 |
| BS 16076-0040 | 12.079 | 0.325 | 0.047 | 0.272 | 0.225 | 0.013 | -2.26 0.38 | -2.31 0.27 | -2.22 0.15 |
| BS 16077-0007 | 12.346 | 0.338 | -0.007 | 0.193 | 0.153 | 0.000 | ... | ≤ -3.0 0.4 | -2.94 0.26 |
| BS 16077-0023 | 12.445 | 0.322 | 0.032 | 0.331 | 0.222 | 0.000 | ... | -2.33 0.67 | -2.75 0.24 |
| BS 16079-0019 | 14.138 | 0.311 | 0.073 | 0.320 | 0.211 | 0.001 | -1.53 0.71 | -2.39 0.37 | -2.54 0.17 |
| BS 16080-0052 | 13.424 | 0.336 | 0.157 | 0.381 | 0.557 | 0.000 | -0.24 0.69 | +0.4 0.6 | ... |
| BS 16080-0061 | 13.580 | 0.396 | 0.097 | 0.333 | 0.476 | 0.000 | -1.48 0.82 | -1.05 0.88 | ... |
| BS 16080-0062 | 14.007 | 0.406 | 0.193 | 0.216 | 0.587 | 0.000 | -0.63 0.27 | -0.60 0.66 | ... |
| BS 16080-0096 | 13.289 | 0.390 | 0.209 | 0.322 | 0.627 | 0.001 | +0.03 0.25 | +0.2 1.0 | +0.14 0.17 |
| BS 16080-0097 | 13.915 | 0.255 | 0.178 | 0.415 | 0.495 | 0.010 | +0.21 0.37 | +0.5 0.3 | +0.30 0.50 |
| BS 16080-0120 | 9.266 | 0.373 | 0.179 | 0.344 | 0.620 | 0.004 | -0.19 0.31 | +0.6 0.5 | -0.34 0.18 |
| BS 16081-0038 | 13.991 | 0.286 | 0.064 | 0.361 | 0.258 | 0.000 | -2.06 0.62 | -1.66 0.28 | -1.96 0.18 |
| BS 16083-0019 | 13.025 | 0.330 | 0.054 | 0.327 | 0.247 | 0.004 | -1.95 0.46 | -2.10 0.37 | -2.04 0.15 |
| BS 16083-0022 | 13.868 | 0.393 | 0.148 | 0.234 | 0.511 | 0.004 | -0.82 0.23 | -0.81 0.33 | -0.67 0.21 |
| BS 16083-0024 | 14.325 | 0.343 | 0.053 | 0.278 | 0.228 | 0.007 | -1.90 0.48 | -2.37 0.59 | -2.81 0.26 |
| BS 16083-0041 | 12.082 | 0.307 | 0.064 | 0.328 | 0.242 | 0.001 | -1.81 0.38 | -1.95 0.86 | -2.12 0.15 |
| BS 16083-0065 | 14.900 | 0.299 | 0.084 | 0.265 | 0.234 | 0.000 | -1.32 0.49 | -1.99 0.86 | -2.69 0.20 |
| BS 16083-0166 | 13.068 | 0.358 | 0.139 | 0.226 | 0.511 | 0.005 | -0.57 0.76 | -0.53 0.40 | -1.11 0.15 |
| BS 16083-0172 | 13.384 | 0.462 | 0.020 | 0.250 | 0.286 | 0.007 | ... | ≤ -2.5 0.3 | -2.40 0.15 |
| BS 16088-0147 | 13.922 | 0.345 | 0.069 | 0.377 | 0.405 | 0.016 | -1.49 0.91 | -1.10 0.60 | -0.84 0.15 |
| BS 16088-0148 | 13.649 | 0.300 | 0.101 | 0.421 | 0.380 | 0.002 | -0.98 0.31 | -0.89 0.32 | -0.71 0.15 |
| BS 16090-0027 | 13.977 | 0.383 | 0.191 | 0.284 | 0.570 | 0.000 | -0.20 0.22 | -0.44 0.47 | -0.34 0.18 |
| BS 16090-0033 | 13.728 | 0.344 | 0.136 | 0.322 | 0.489 | 0.000 | -0.54 0.46 | -0.51 0.45 | -0.64 0.15 |
| BS 16090-0048 | 14.096 | 0.324 | 0.135 | 0.265 | 0.322 | 0.000 | -0.48 0.60 | -1.49 0.35 | -1.38 0.15 |
| BS 16090-0049 | 14.113 | 0.371 | 0.131 | 0.291 | 0.462 | 0.000 | -0.71 0.43 | -0.92 0.36 | -0.68 0.17 |
| BS 16090-0057 | 14.003 | 0.350 | 0.118 | 0.412 | 0.512 | 0.000 | -0.77 0.31 | -0.35 0.32 | -0.37 0.15 |
| BS 16090-0080 | 13.922 | 0.338 | 0.024 | 0.360 | 0.216 | 0.010 | -0.78 0.23 | -2.48 0.32 | -2.30 0.15 |
| BS 16467-0062 | 14.025 | 0.480 | -0.060 | 0.222 | 0.201 | 0.000 | ... | ≤ -2.5 ... | -3.13 0.30 |
| BS 16468-0008 | 13.667 | 0.389 | 0.191 | 0.324 | 0.555 | 0.005 | -0.12 0.23 | -0.59 0.36 | -0.68 0.17 |

TABLE 5B. (continued)

| BPS ID (1) | V_o (2) | $(b-y)_o$ (3) | m_0 (4) | c_0 (5) | hk_o (6) | $E(b-y)$ (7) | $[\text{Fe}/\text{H}]_{m1} \sigma_{Fe}$ (8) | σ_{Fe} (9) | $[\text{Fe}/\text{H}]_{hk} \sigma_{Fe}$ (10) | σ_{Fe} (11) | $[\text{Fe}/\text{H}]_{K3} \sigma_{Fe}$ (12) | σ_{Fe} (13) |
|---------------|--------------|------------------|--------------|--------------|---------------|-----------------|--|----------------------|---|-----------------------|---|-----------------------|
| BS 16468-0029 | 13.326 | 0.327 | 0.120 | 0.343 | 0.444 | 0.000 | -0.69 | 0.26 | -0.63 | 0.32 | -1.07 | 0.15 |
| BS 16468-0034 | 13.402 | 0.332 | 0.144 | 0.337 | 0.481 | 0.004 | -0.39 | 0.18 | -0.39 | 0.28 | -0.71 | 0.15 |
| BS 16468-0040 | 13.592 | 0.257 | 0.170 | 0.559 | 0.440 | 0.001 | +0.10 | 0.41 | -0.04 | 0.37 | +0.06 | 0.27 |
| BS 16468-0054 | 14.066 | 0.348 | 0.170 | 0.323 | 0.583 | 0.004 | -0.13 | 0.52 | ≥ 0.5 | 0.6 | -0.12 | 0.17 |
| BS 16470-0061 | 14.125 | 0.341 | 0.039 | 0.285 | 0.212 | 0.009 | -2.48 | 0.43 | -2.5 | 0.3 | -2.45 | 0.16 |
| BS 16473-0007 | 12.998 | 0.278 | 0.143 | 0.403 | 0.426 | 0.019 | -0.30 | 0.41 | -0.28 | 0.66 | ... | ... |
| BS 16473-0014 | 13.219 | 0.343 | 0.112 | 0.366 | 0.467 | 0.025 | ... | ... | -0.63 | ≥ 1.0 | ... | ... |
| BS 16473-0019 | 12.359 | 0.354 | 0.086 | 0.379 | 0.375 | 0.019 | -1.18 | 0.64 | -1.38 | 0.42 | -0.77 | 0.15 |
| BS 16473-0025 | 12.842 | 0.258 | 0.235 | 0.357 | 0.429 | 0.018 | ... | ... | -0.16 | 0.61 | +0.06 | 0.27 |
| BS 16473-0033 | 13.534 | 0.333 | 0.171 | ... | 0.509 | 0.012 | ... | ... | -0.08 | 0.78 | -0.34 | 0.15 |
| BS 16473-0044 | 13.346 | 0.339 | 0.112 | 0.413 | 0.456 | 0.016 | -0.82 | 0.79 | -0.67 | 0.72 | -0.71 | 0.15 |
| BS 16473-0059 | 13.793 | 0.289 | 0.104 | 0.432 | 0.446 | 0.023 | ... | ... | -0.15 | 0.79 | -0.37 | 0.19 |
| BS 16473-0062 | 13.061 | 0.418 | 0.283 | 0.303 | 0.845 | 0.015 | +0.18 | 0.18 | ≥ 0.0 | ... | +0.10: | 0.19 |
| BS 16473-0072 | 13.010 | 0.265 | 0.140 | 0.603 | 0.394 | 0.012 | ... | ... | -0.54 | 0.92 | -0.10 | 0.25 |
| BS 16473-0096 | 12.394 | 0.301 | 0.153 | 0.402 | 0.448 | 0.012 | -0.18 | 0.68 | -0.23 | 0.41 | ... | ... |
| BS 16473-0109 | 13.203 | 0.401 | 0.070 | 0.324 | 0.517 | 0.007 | ... | ... | -0.85 | 0.79 | ... | ... |
| BS 16477-0013 | 14.036 | 0.336 | 0.074 | 0.276 | 0.268 | 0.010 | -1.41 | 0.31 | -1.94 | 0.32 | -0.64 | 0.28 |
| BS 16479-0015 | 13.332 | 0.309 | 0.095 | 0.303 | 0.331 | 0.003 | ... | ... | -1.36 | ≥ 1.0 | -1.39 | 0.15 |
| BS 16479-0037 | 13.931 | 0.359 | 0.158 | 0.099 | 0.371 | 0.003 | ... | ... | -1.44 | 0.71 | -1.97 | 0.15 |
| BS 16541-0022 | 13.860 | 0.284 | 0.089 | 0.448 | 0.297 | 0.007 | ... | ... | -1.41 | 0.61 | -1.87 | 0.17 |
| BS 16541-0073 | 13.951 | 0.332 | 0.015 | 0.337 | 0.219 | 0.014 | ... | ... | -2.41 | 0.31 | -2.48 | 0.17 |
| BS 16542-0104 | 13.118 | 0.462 | 0.308 | 0.287 | 0.824 | 0.041 | -0.09 | 0.16 | ≥ 0.5 | 0.5 | ... | ... |
| BS 16543-0057 | 14.289 | 0.381 | ... | ... | 0.042 | 0.000 | ... | ... | ≤ -3.0 | ≥ 1.0 | -2.54 | 0.20 |
| BS 16543-0068 | 12.015 | 0.347 | 0.044 | 0.270 | 0.248 | 0.010 | -2.20 | 0.35 | -2.19 | 0.30 | -2.08 | 0.15 |
| BS 16545-0005 | 12.886 | 0.352 | 0.072 | 0.464 | 0.427 | 0.000 | -1.44 | 0.25 | -0.97 | 0.31 | -0.77 | 0.15 |
| BS 16545-0074 | 14.127 | 0.299 | 0.093 | 0.304 | 0.246 | 0.007 | -1.14 | 0.25 | -1.76 | 0.30 | -2.54 | 0.17 |
| BS 16545-0080 | 14.635 | 0.344 | 0.092 | 0.322 | 0.295 | 0.000 | -1.09 | 0.48 | -1.76 | 0.39 | -1.80 | 0.15 |
| BS 16545-0089 | 14.438 | 0.317 | 0.033 | 0.395 | 0.153 | 0.000 | -3.32 | 0.70 | ≤ -3.0 | 0.4 | -3.59 | 0.20 |
| BS 16546-0075 | 13.156 | 0.423 | 0.045 | 0.255 | 0.289 | 0.000 | -2.24 | 0.21 | -2.40 | 0.26 | -2.24 | 0.15 |
| BS 16546-0098 | 13.968 | 0.307 | 0.061 | 0.378 | 1.255 | 0.003 | -1.91 | 0.36 | ... | ... | -1.97 | 0.15 |
| BS 16549-0007 | 14.147 | 0.435 | 0.071 | 0.237 | 0.318 | 0.000 | -1.93 | 0.27 | -2.34 | 0.29 | -2.40 | 0.15 |
| BS 16549-0017 | 12.511 | 0.293 | 0.060 | 0.405 | 0.239 | 0.000 | -2.10 | 0.45 | -1.86 | 0.35 | -2.44 | 0.18 |
| BS 16549-0057 | 13.834 | 0.427 | 0.201 | 0.190 | 0.695 | 0.000 | -0.90 | 0.24 | -0.10 | 0.58 | -0.19: | 0.22 |
| BS 16550-0014 | 11.860 | 0.391 | 0.028 | 0.502 | 0.279 | 0.038 | ... | ... | -2.33 | 0.26 | -2.22 | 0.15 |
| BS 16552-0086 | 14.347 | 0.424 | 0.197 | 0.327 | 0.676 | 0.013 | -0.28 | 0.23 | -0.24 | 0.60 | ... | ... |
| BS 16552-0126 | 13.960 | 0.383 | 0.252 | 0.322 | 0.761 | 0.022 | +0.36 | 0.17 | ≥ 0.5 | 0.3 | +0.08: | 0.17 |
| BS 16552-0142 | 11.989 | 0.328 | 0.066 | 0.212 | 0.236 | 0.014 | -1.63 | 0.24 | -2.21 | 0.29 | -2.35 | 0.15 |
| BS 16557-0024 | 12.963 | 0.353 | 0.111 | 0.378 | 0.452 | 0.023 | -0.86 | 0.35 | -0.81 | 0.33 | -1.45 | 0.15 |
| BS 16557-0074 | 12.194 | 0.315 | 0.039 | 0.278 | 0.190 | 0.015 | -2.84 | 0.76 | -2.6 | 0.4 | -2.54 | 0.17 |
| BS 16558-0001 | 13.937 | 0.388 | 0.015 | 0.596 | 0.229 | 0.027 | ... | ... | -2.6 | 0.3 | -2.22 | 0.15 |
| BS 16922-0026 | 10.143 | 0.375 | 0.219 | 0.325 | 0.682 | 0.016 | +0.22 | 0.31 | ≥ 0.5 | 0.3 | ... | ... |
| BS 16922-0090 | 13.535 | 0.417 | -0.075 | 0.525 | 0.272 | 0.010 | ... | ... | -2.44 | 0.33 | ... | ... |
| BS 16924-0026 | 14.459 | 0.278 | -0.039 | 0.491 | 0.296 | 0.000 | ... | ... | -1.39 | ≥ 1.0 | -2.70 | 0.20 |
| BS 16926-0020 | 14.021 | 0.367 | 0.164 | 0.230 | 0.521 | 0.006 | -0.33 | 0.45 | -0.56 | 0.41 | -0.55 | 0.15 |
| BS 16926-0053 | 13.334 | 0.354 | 0.164 | 0.395 | 0.543 | 0.000 | -0.25 | 0.45 | -0.05 | 0.54 | -0.37 | 0.15 |
| BS 16926-0101 | 13.805 | 0.357 | 0.080 | 0.361 | 0.386 | 0.001 | -1.27 | 0.75 | -1.34 | 0.44 | -1.33 | 0.15 |
| BS 16929-0035 | 12.997 | 0.290 | 0.081 | 0.342 | 0.218 | 0.000 | -1.44 | 0.33 | -2.25 | 0.36 | -2.79 | 0.21 |
| BS 16933-0015 | 14.074 | 0.426 | 0.111 | 0.468 | 0.519 | 0.007 | -1.83 | 0.38 | -1.11 | 0.34 | -0.85 | 0.25 |
| BS 16941-0005 | 13.690 | 0.451 | 0.218 | 0.251 | 0.737 | 0.000 | -0.59 | 0.19 | -0.3 | 0.6 | -0.70: | 0.31 |
| BS 16941-0011 | 12.336 | 0.367 | 0.180 | 0.267 | 0.563 | 0.007 | -0.13 | 0.49 | -0.10 | 0.55 | -0.38 | 0.17 |

TABLE 5B. (continued)

| BPS ID (1) | V_o (2) | $(b-y)_o$ (3) | m_0 (4) | c_0 (5) | hk_o (6) | $E(b-y)$ (7) | $[\text{Fe}/\text{H}]_{m1} \sigma_{Fe}$ (8) | σ_{Fe} (9) | $[\text{Fe}/\text{H}]_{hk} \sigma_{Fe}$ (10) | σ_{Fe} (11) | $[\text{Fe}/\text{H}]_{K3} \sigma_{Fe}$ (12) | σ_{Fe} (13) |
|---------------|--------------|------------------|--------------|--------------|---------------|-----------------|--|----------------------|---|-----------------------|---|-----------------------|
| BS 16941-0021 | 14.070 | 0.434 | 0.285 | 0.311 | 0.829 | 0.000 | +0.13 | 0.17 | ≥ 0.5 | | -0.44: | 0.27 |
| BS 16945-0054 | 13.669 | 0.450 | -0.089 | 0.198 | 0.066 | 0.000 | ... | ... | ≤ -3.0 | 0.4 | -2.74 | 0.27 |
| BS 16972-0013 | 13.508 | 0.363 | 0.044 | 0.275 | 0.246 | 0.017 | -2.11 | 0.61 | -2.35 | 0.32 | -2.11 | 0.15 |
| BS 16972-0041 | 12.907 | 0.311 | 0.038 | 0.367 | 0.223 | 0.018 | -3.00 | 0.24 | -2.27 | 0.34 | -2.16 | 0.15 |
| BS 17136-0011 | 13.771 | 0.341 | 0.115 | 0.291 | 0.370 | 0.016 | -0.78 | 0.70 | -1.33 | 0.61 | ... | ... |
| BS 17136-0018 | 12.782 | 0.397 | 0.143 | 0.356 | 0.573 | 0.019 | -0.74 | 0.43 | -0.58 | 0.53 | -1.02 | 0.21 |
| BS 17136-0041 | 12.591 | 0.384 | 0.020 | 0.386 | 0.377 | 0.014 | ... | ... | -1.57 | 0.42 | ... | ... |
| BS 17136-0054 | 13.093 | 0.362 | 0.197 | 0.165 | 0.619 | 0.008 | ... | ... | ≥ 0.5 | 0.9 | ... | ... |
| BS 17136-0061 | 12.758 | 0.317 | 0.079 | 0.521 | 0.377 | 0.008 | -1.36 | 0.31 | -1.09 | 0.48 | ... | ... |
| BS 17137-0033 | 13.792 | 0.296 | 0.067 | 0.370 | 0.275 | 0.000 | -1.81 | 0.36 | -1.59 | 0.28 | +0.27: | 0.24 |
| BS 17139-0016 | 13.073 | 0.479 | 0.113 | 0.230 | 0.409 | 0.012 | -1.64 | 0.42 | -2.2 | 0.4 | ... | ... |
| BS 17139-0018 | 14.328 | 0.393 | -0.079 | 0.513 | 0.144 | 0.011 | ... | ... | -2.9 | 0.6 | ... | ... |
| BS 17435-0009 | 13.453 | 0.413 | 0.188 | 0.346 | 0.694 | 0.013 | -0.26 | 0.21 | +0.5 | 0.5 | -0.03 | 0.20 |
| BS 17438-0011 | 13.873 | 0.291 | 0.204 | 0.238 | 0.533 | 0.039 | ... | ... | ≥ 0.5 | ≥ 1.0 | -0.19 | 0.20 |
| BS 17438-0023 | 14.449 | 0.296 | 0.163 | 0.471 | 0.494 | 0.038 | -0.28 | 0.38 | +0.3 | 0.5 | -0.09 | 0.21 |
| BS 17438-0027 | 13.903 | 0.301 | 0.081 | 0.438 | 0.382 | 0.036 | -1.39 | 0.88 | -0.88 | 0.56 | -0.83 | 0.15 |
| BS 17438-0030 | 13.820 | 0.400 | 0.217 | 0.117 | 0.576 | 0.036 | -1.19 | 0.19 | -0.59 | 0.88 | ... | ... |
| BS 17438-0031 | 13.991 | 0.380 | -0.018 | 0.497 | 0.408 | 0.037 | ... | ... | -1.37 | 0.64 | -0.68 | 0.17 |
| BS 17438-0045 | 14.163 | 0.340 | 0.154 | 0.321 | 0.588 | 0.045 | ... | ... | ≥ 0.5 | ≥ 1.0 | ... | ... |
| BS 17438-0048 | 13.896 | 0.345 | 0.096 | 0.560 | 0.467 | 0.044 | ... | ... | -0.65 | ≥ 1.0 | -0.37 | 0.15 |
| BS 17438-0064 | 13.495 | 0.324 | 0.106 | 0.426 | 0.452 | 0.034 | ... | ... | -0.55 | ≥ 1.0 | -0.71 | 0.15 |
| BS 17438-0065 | 13.935 | 0.356 | 0.282 | 0.210 | 0.679 | 0.031 | ... | ... | ≥ 0.5 | 0.6 | -0.38 | 0.17 |
| BS 17438-0098 | 13.627 | 0.436 | 0.234 | 0.315 | 0.733 | 0.023 | -0.11 | 0.41 | +0.1 | ≥ 1.0 | -1.20 | 0.28 |
| BS 17438-0107 | 14.261 | 0.263 | 0.144 | 0.475 | 0.404 | 0.027 | -0.28 | 0.68 | -0.44 | 0.45 | -0.10 | 0.25 |
| BS 17438-0113 | 13.861 | 0.360 | 0.060 | 0.434 | 0.366 | 0.025 | -1.64 | 0.58 | -1.47 | 0.39 | -1.23 | 0.15 |
| BS 17439-0054 | 12.899 | 0.397 | 0.157 | 0.310 | 0.574 | 0.021 | -0.57 | 0.17 | -0.57 | 0.28 | -0.67 | 0.21 |
| BS 17439-0055 | 11.036 | 0.256 | 0.082 | 0.630 | 0.267 | 0.016 | ... | ... | -1.51 | 0.26 | -1.15 | 0.19 |
| BS 17444-0009 | 13.082 | 0.295 | 0.177 | 0.246 | 0.445 | 0.025 | +0.18 | 0.79 | -0.21 | 0.50 | -0.47 | 0.17 |
| BS 17444-0011 | 13.003 | 0.342 | 0.211 | 0.303 | 0.636 | 0.026 | ... | ... | ≥ 0.5 | 0.8 | +0.08 | 0.17 |
| BS 17444-0040 | 12.801 | 0.328 | 0.142 | 0.397 | 0.576 | 0.026 | -0.40 | 0.52 | ≥ 0.5 | 0.5 | -0.10 | 0.18 |
| BS 17444-0088 | 11.782 | 0.304 | 0.132 | 0.409 | 0.421 | 0.020 | ... | ... | -0.55 | 0.84 | -0.38 | 0.17 |
| BS 17447-0029 | 13.465 | 0.305 | 0.022 | 0.279 | 0.185 | 0.028 | ... | ... | -2.6 | 0.5 | -3.08 | 0.24 |
| BS 17447-0056 | 14.405 | 0.390 | 0.182 | 0.290 | 0.641 | 0.027 | -0.30 | 0.23 | +0.4 | 0.7 | ... | ... |
| BS 17447-0089 | 14.351 | 0.366 | 0.075 | 0.399 | 0.488 | 0.021 | -1.34 | 0.82 | -0.71 | 0.72 | -0.84 | 0.15 |
| BS 17447-0095 | 13.828 | 0.357 | 0.074 | 0.280 | 0.414 | 0.025 | ... | ... | -1.15 | 0.81 | -0.69 | 0.15 |
| BS 17447-0106 | 13.840 | 0.325 | 0.070 | 0.399 | 0.422 | 0.024 | -1.53 | 0.95 | -0.77 | 0.70 | -0.46 | 0.15 |
| BS 17448-0021 | 11.163 | 0.323 | 0.054 | 0.335 | 0.198 | 0.007 | -2.01 | 0.32 | -2.6 | 0.3 | ... | ... |
| BS 17569-0031 | 11.963 | 0.303 | 0.170 | 0.372 | 0.526 | 0.019 | 0.06 | 0.94 | ≥ 0.5 | 0.7 | -0.15 | 0.19 |
| BS 17569-0034 | 13.169 | 0.334 | 0.054 | 0.474 | 0.342 | 0.028 | ... | ... | -1.44 | 0.66 | -1.29 | 0.15 |
| BS 17569-0047 | 14.129 | 0.334 | 0.091 | 0.243 | 0.268 | 0.032 | ... | ... | -1.92 | 0.86 | -2.10 | 0.15 |
| BS 17569-0078 | 13.527 | 0.329 | 0.059 | ... | 0.324 | 0.030 | ... | ... | -1.51 | ≥ 1.0 | -1.84 | 0.15 |
| BS 17569-0084 | 13.085 | 0.329 | 0.146 | 0.322 | 0.454 | 0.044 | -0.35 | 0.78 | -0.58 | 0.63 | -0.83 | 0.15 |
| BS 17570-0008 | 13.650 | 0.320 | 0.161 | 0.316 | 0.535 | 0.018 | ... | ... | +0.4 | ≥ 1.0 | -0.46 | 0.15 |
| BS 17570-0009 | 13.094 | 0.410 | 0.100 | 0.379 | 0.361 | 0.022 | -1.61 | 0.36 | -1.92 | 0.44 | -2.24 | 0.15 |
| BS 17570-0019 | 13.433 | 0.345 | 0.075 | 0.433 | 0.414 | 0.027 | ... | ... | -1.01 | 0.94 | -1.15 | 0.15 |
| BS 17570-0031 | 12.226 | 0.343 | 0.032 | 0.371 | 0.241 | 0.021 | -2.89 | 0.35 | -2.23 | 0.30 | -2.24 | 0.15 |
| BS 17570-0037 | 13.910 | 0.348 | 0.059 | 0.303 | 0.306 | 0.016 | ... | ... | -1.72 | 0.27 | -1.96 | 0.15 |
| BS 17570-0041 | 13.906 | 0.261 | 0.038 | 0.456 | 0.341 | 0.018 | ... | ... | -0.98 | 0.44 | -0.39 | 0.23 |
| BS 17570-0042 | 13.650 | 0.357 | 0.005 | 0.416 | 0.261 | 0.009 | ... | ... | -2.17 | 0.51 | -2.04 | 0.15 |
| BS 17570-0054 | 12.891 | 0.378 | 0.161 | 0.401 | 0.559 | 0.014 | -0.38 | 0.95 | -0.46 | 0.64 | -0.06 | 0.17 |

TABLE 5B. (continued)

| BPS ID (1) | V_o (2) | $(b-y)_o$ (3) | m_0 (4) | c_0 (5) | hk_o (6) | $E(b-y)$ (7) | $[Fe/H]_{m1}$ (8) | σ_{Fe} (9) | $[Fe/H]_{hk}$ (10) | σ_{Fe} (11) | $[Fe/H]_{K3}$ (12) | σ_{Fe} (13) |
|---------------|--------------|------------------|--------------|--------------|---------------|-----------------|----------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| BS 17570-0063 | 14.500 | 0.310 | 0.004 | 0.390 | 0.217 | 0.017 | ... | ... | -2.33 | 0.70 | -3.32 | 0.23 |
| BS 17570-0067 | 12.996 | 0.266 | 0.179 | 0.640 | 0.422 | 0.014 | ... | ... | -0.27 | 0.44 | -1.29 | 0.22 |
| BS 17570-0071 | 13.707 | 0.279 | 0.145 | 0.446 | 0.394 | 0.015 | -0.27 | 0.78 | -0.62 | 0.46 | -0.87 | 0.15 |
| BS 17570-0074 | 13.790 | 0.293 | 0.144 | 0.383 | 0.425 | 0.019 | ... | ... | -0.40 | 0.70 | -0.67 | 0.15 |
| BS 17570-0076 | 13.531 | 0.329 | 0.209 | 0.280 | 0.554 | 0.019 | ... | ... | ≥ 0.5 | ≥ 1.0 | -0.22 | 0.16 |
| BS 17570-0082 | 13.674 | 0.387 | 0.075 | 0.370 | 0.404 | 0.015 | -2.01 | 0.61 | -1.44 | 0.40 | -1.00 | 0.16 |
| BS 17570-0090 | 13.103 | 0.337 | 0.042 | 0.346 | 0.226 | 0.010 | ... | ... | -2.36 | 0.39 | -2.85 | 0.24 |
| BS 17570-0092 | 13.902 | 0.391 | 0.111 | 0.272 | 0.430 | 0.017 | -1.17 | 0.54 | -1.31 | 0.64 | -0.68 | 0.17 |
| BS 17570-0093 | 13.786 | 0.390 | -0.040 | 0.326 | 0.173 | 0.010 | ... | ... | -2.8 | 0.6 | -1.99 | 0.15 |
| BS 17571-0066 | 12.740 | 0.369 | 0.108 | 0.220 | 0.558 | ≤ 0.134 | ≤ -2.18 | 0.42 | ≤ -0.22 | ≥ 1.0 | -0.55 | 0.15 |
| BS 17574-0040 | 11.898 | 0.276 | 0.106 | 0.508 | 0.375 | 0.095 | -0.94 | 0.32 | -0.76 | 0.29 | -0.87 | 0.15 |
| BS 17574-0044 | 10.654 | 0.259 | 0.158 | 0.593 | 0.444 | 0.112 | ... | ... | -0.01 | 0.27 | -0.64 | 0.19 |
| BS 17575-0019 | 12.869 | 0.257 | 0.156 | 0.495 | 0.480 | 0.077 | -0.11 | 0.19 | +0.4 | 0.5 | -0.10 | 0.25 |
| BS 17575-0145 | 11.892 | 0.330 | 0.197 | 0.432 | 0.664 | 0.131 | ... | ... | ≥ 0.5 | 0.7 | 0.11 | 0.19 |
| BS 17575-0168 | 12.745 | 0.320 | 0.067 | 0.230 | 0.250 | 0.155 | -1.63 | 0.43 | -1.99 | 0.46 | -2.10 | 0.15 |
| BS 17578-0008 | 12.643 | 0.310 | 0.112 | 0.435 | 0.443 | 0.061 | -0.79 | 0.38 | -0.43 | 0.38 | -0.49 | 0.15 |
| BS 17578-0012 | 12.157 | 0.320 | 0.145 | 0.317 | 0.475 | 0.048 | -0.34 | 0.51 | -0.25 | 0.59 | -0.46 | 0.15 |
| BS 17578-0027 | 12.378 | 0.335 | 0.113 | 0.488 | 0.397 | 0.082 | -0.80 | 0.87 | -1.08 | 0.59 | -1.18 | 0.15 |
| BS 17578-0059 | 12.055 | 0.314 | 0.136 | 0.400 | 0.461 | 0.064 | -0.44 | 0.17 | -0.30 | 0.35 | -0.60 | 0.15 |
| BS 17578-0085 | 11.543 | 0.281 | 0.133 | 0.531 | 0.455 | 0.055 | -0.46 | 0.46 | ≥ 0.0 | 0.4 | -0.23 | 0.23 |
| BS 17578-0101 | 12.097 | 0.381 | 0.078 | 0.306 | 0.420 | 0.056 | -1.70 | 0.51 | -1.30 | 0.45 | -1.00 | 0.16 |
| BS 17579-0032 | 12.548 | 0.376 | 0.154 | 0.344 | 0.581 | 0.007 | -0.45 | 0.34 | -0.08 | 0.53 | -0.34 | 0.18 |
| BS 17579-0049 | 12.448 | 0.389 | 0.137 | 0.388 | 0.565 | 0.007 | -0.83 | 0.30 | -0.55 | 0.36 | -0.34 | 0.18 |
| BS 17583-0002 | 12.183 | 0.367 | 0.113 | 0.456 | 0.495 | 0.096 | -0.88 | 0.49 | -0.69 | 0.32 | -0.24 | 0.17 |
| BS 17583-0011 | 11.659 | 0.305 | 0.146 | 0.383 | 0.512 | 0.069 | -0.29 | 0.31 | +0.4 | 0.3 | -0.15 | 0.19 |
| BS 17583-0014 | 12.485 | 0.365 | 0.149 | 0.431 | 0.539 | 0.064 | -0.49 | 0.76 | -0.38 | 0.72 | -0.69 | 0.15 |
| BS 17583-0015 | 11.289 | 0.313 | 0.116 | 0.527 | 0.434 | 0.064 | -0.73 | 0.25 | -0.55 | 0.31 | -0.71 | 0.15 |
| BS 17583-0027 | 11.581 | 0.332 | 0.165 | 0.392 | 0.570 | 0.066 | -0.11 | 0.31 | ≥ 0.5 | 0.3 | -0.34 | 0.15 |
| BS 17583-0064 | 12.626 | 0.333 | 0.162 | 0.388 | 0.555 | 0.068 | -0.16 | 0.38 | +0.4 | 0.3 | -0.22 | 0.16 |
| BS 17583-0084 | 12.567 | 0.355 | 0.148 | 0.339 | 0.536 | 0.058 | -0.45 | 0.40 | -0.17 | 0.58 | -0.64 | 0.15 |
| BS 17583-0097 | 11.965 | 0.397 | 0.221 | 0.330 | 0.740 | 0.046 | +0.11 | 0.48 | ≥ 0.0 | ... | +0.01 | 0.18 |
| BS 17583-0111 | 12.403 | 0.301 | 0.153 | 0.433 | 0.482 | 0.048 | -0.18 | 0.53 | +0.1 | 0.4 | -0.49 | 0.15 |
| BS 17583-0115 | 12.531 | 0.390 | 0.195 | 0.344 | 0.708 | 0.047 | -0.04 | 0.23 | ≥ 0.5 | 0.8 | -0.34 | 0.18 |
| BS 17583-0124 | 12.285 | 0.268 | 0.121 | 0.492 | 0.375 | 0.050 | -0.67 | 0.48 | -0.72 | 0.32 | -0.64 | 0.17 |
| BS 17583-0132 | 11.866 | 0.392 | 0.149 | 0.325 | 0.663 | 0.047 | -0.63 | 0.34 | ≥ 0.5 | 0.9 | -0.06 | 0.17 |
| BS 17583-0140 | 12.034 | 0.302 | 0.178 | 0.344 | 0.578 | 0.053 | +0.18 | 0.19 | ≥ 0.5 | 0.3 | +0.03 | 0.20 |
| BS 17583-0146 | 11.909 | 0.273 | 0.132 | 0.475 | 0.428 | 0.053 | -0.47 | 0.44 | -0.24 | 0.33 | -0.31 | 0.21 |
| BS 17583-0154 | 12.536 | 0.267 | 0.111 | 0.462 | 0.448 | 0.045 | -0.86 | 0.86 | 0.00 | 0.37 | -0.23 | 0.23 |
| BS 17583-0155 | 12.101 | 0.296 | 0.139 | 0.554 | 0.519 | 0.043 | -0.37 | 0.26 | ≥ 0.5 | 0.3 | 0.11 | 0.23 |
| BS 17583-0159 | 12.291 | 0.349 | 0.118 | 0.401 | 0.510 | 0.045 | -0.77 | 0.38 | -0.36 | 0.45 | -0.37 | 0.15 |
| BS 17584-0002 | 12.172 | 0.344 | 0.124 | 0.420 | 0.489 | 0.038 | -0.69 | 0.21 | -0.51 | 0.28 | -0.64 | 0.15 |
| BS 17584-0004 | 12.566 | 0.382 | 0.112 | 0.469 | 0.525 | 0.033 | -1.59 | 0.69 | -0.66 | 0.34 | -0.53 | 0.17 |
| BS 17584-0016 | 11.915 | 0.398 | 0.169 | 0.349 | 0.629 | 0.037 | -0.39 | 0.23 | 0.0 | 0.6 | -0.13 | 0.19 |
| BS 17584-0039 | 12.188 | 0.376 | 0.139 | 0.381 | 0.509 | 0.021 | -0.71 | 0.61 | -0.69 | 0.5 | -0.84 | 0.16 |
| BS 17584-0045 | 12.814 | 0.311 | 0.121 | 0.422 | 0.397 | 0.021 | -0.65 | 0.97 | -0.84 | 0.66 | -0.60 | 0.15 |
| BS 17584-0049 | 13.376 | 0.356 | 0.013 | 0.457 | 0.357 | 0.021 | ... | ... | -1.50 | 0.73 | -1.11 | 0.15 |
| BS 17584-0072 | 12.608 | 0.410 | 0.187 | 0.363 | 0.688 | 0.018 | -0.23 | 0.59 | ≥ 0.5 | 0.7 | -0.03 | 0.20 |
| BS 17584-0081 | 12.342 | 0.342 | 0.154 | 0.398 | 0.523 | 0.022 | -0.31 | 0.42 | -0.07 | 0.38 | -0.24 | 0.16 |
| BS 17586-0002 | 11.883 | 0.297 | 0.099 | 0.464 | 0.405 | 0.017 | -1.02 | 0.28 | -0.62 | 0.29 | -0.94 | 0.15 |
| BS 17586-0066 | 12.100 | 0.274 | ... | 0.488 | 0.400 | 0.026 | ... | ... | -0.54 | 0.48 | -0.15 | 0.24 |

TABLE 5B. (continued)

| BPS ID (1) | V_o (2) | $(b-y)_o$ (3) | m_0 (4) | c_0 (5) | hk_o (6) | $E(b-y)$ (7) | $[\text{Fe}/\text{H}]_{m1} \sigma_{Fe}$ (8) | σ_{Fe} (9) | $[\text{Fe}/\text{H}]_{hk} \sigma_{Fe}$ (10) | σ_{Fe} (11) | $[\text{Fe}/\text{H}]_{K3} \sigma_{Fe}$ (12) | σ_{Fe} (13) |
|---------------|--------------|------------------|--------------|--------------|---------------|-----------------|--|----------------------|---|-----------------------|---|-----------------------|
| CS 22173-0005 | 12.895 | 0.311 | 0.127 | 0.526 | 0.436 | 0.010 | ... | ... | -0.51 | 0.65 | -0.71 | 0.15 |
| CS 22177-0009 | 14.236 | 0.291 | 0.088 | 0.113 | 0.216 | 0.015 | ... | ... | -2.27 | 0.93 | -3.00 | 0.21 |
| CS 22177-0010 | 14.128 | 0.341 | 0.041 | 0.365 | 0.301 | 0.022 | ... | ... | -1.71 | 0.80 | -2.81 | 0.26 |
| CS 22177-0018 | 14.980 | 0.329 | 0.115 | 0.350 | 0.281 | 0.004 | ... | ... | -1.74 | ≥ 1.0 | -1.84 | 0.15 |
| CS 22177-0032 | 13.216 | 0.356 | 0.112 | 0.358 | 0.482 | 0.006 | -0.86 | 0.99 | -0.66 | 0.79 | -0.98 | 0.15 |
| CS 22185-0025 | 14.050 | 0.270 | 0.100 | 0.415 | 0.263 | 0.035 | ... | ... | -1.58 | 0.51 | -2.70 | 0.20 |
| CS 22189-0003 | 13.509 | 0.273 | -0.017 | -0.34 | 0.043 | 0.016 | ... | ... | ≤ -3.0 | 0.53 | ... | ... |
| CS 22189-0009 | 14.056 | 0.511 | 0.039 | ... | 0.352 | 0.000 | -2.29 | 0.40 | -2.5 | 0.4 | -3.07 | 0.24 |
| CS 22877-0011 | 13.800 | 0.453 | 0.045 | 0.225 | 0.292 | 0.007 | ... | ... | -2.5 | 0.3 | -2.67 | 0.25 |
| CS 22877-0015 | 13.151 | 0.322 | 0.064 | 0.293 | 0.262 | 0.013 | -1.70 | 0.21 | -1.86 | 0.26 | -2.07 | 0.15 |
| CS 22886-0041 | 13.849 | 0.295 | 0.076 | 0.472 | 0.311 | 0.027 | -1.55 | 0.92 | -1.39 | 0.40 | -1.45 | 0.15 |
| CS 22886-0067 | 13.457 | 0.519 | 0.258 | 0.276 | 0.882 | 0.025 | ... | ... | -1.96 | 0.61 | -0.61 | 0.38 |
| CS 22898-0027 | 12.704 | 0.360 | 0.069 | 0.262 | 0.268 | 0.036 | -1.45 | 0.47 | -2.14 | 0.30 | -2.70 | 0.24 |
| CS 22898-0062 | 13.691 | 0.443 | 0.137 | 0.077 | 0.401 | 0.027 | ... | ... | -1.8 | 0.3 | -1.87 | 0.16 |
| CS 22942-0011 | 12.868 | 0.460 | 0.035 | 0.259 | 0.337 | 0.013 | -2.49 | 0.42 | -2.3 | 0.3 | -2.30 | 0.15 |
| CS 22944-0011 | 11.848 | 0.297 | 0.095 | 0.306 | 0.269 | 0.033 | ... | ... | -1.62 | 0.56 | -2.06 | 0.18 |
| CS 22949-0018 | 13.836 | 0.367 | 0.069 | 0.354 | 0.353 | 0.017 | -1.44 | 0.94 | -1.59 | 0.60 | -1.66 | 0.15 |
| CS 22949-0025 | 14.035 | 0.369 | 0.352 | 0.260 | 0.786 | 0.020 | ... | ... | ≥ 0.5 | ≥ 1.0 | ... | ... |
| CS 22949-0026 | 13.072 | 0.346 | 0.060 | 0.270 | 0.246 | 0.018 | -1.69 | 0.85 | -2.20 | 0.43 | -2.08 | 0.15 |
| CS 22949-0030 | 13.757 | 0.279 | 0.115 | 0.280 | 0.258 | 0.024 | ... | ... | -1.64 | 0.77 | -2.32 | 0.22 |
| CS 22950-0096 | 13.627 | 0.366 | -0.011 | 0.293 | 0.211 | 0.050 | ... | ... | -2.6 | 0.3 | -2.15 | 0.15 |
| CS 22954-0015 | 12.984 | 0.331 | 0.053 | 0.320 | 0.256 | 0.009 | -1.98 | 0.31 | -2.02 | 0.53 | -1.84 | 0.15 |
| CS 22962-0006 | 12.776 | 0.282 | 0.042 | -0.018 | 0.146 | 0.016 | ... | ... | ≤ -3.0 | 0.7 | ... | ... |
| CS 22962-0027 | 14.485 | 0.423 | 0.057 | 0.264 | 0.305 | 0.001 | -2.09 | 0.84 | -2.35 | 0.62 | -1.86 | 0.15 |
| CS 22963-0009 | 13.390 | 0.345 | 0.004 | 0.319 | 0.229 | 0.034 | ... | ... | -2.37 | 0.29 | -2.02 | 0.15 |
| CS 22963-0015 | 14.202 | 0.334 | 0.144 | 0.378 | 0.498 | 0.036 | -0.40 | 0.25 | -0.23 | 0.29 | -0.10 | 0.18 |
| CS 22963-0027 | 14.381 | 0.295 | 0.117 | 0.506 | 0.378 | 0.024 | ... | ... | -0.87 | ≥ 1.0 | -1.45 | 0.15 |
| CS 22965-0043 | 13.778 | 0.351 | 0.101 | 0.144 | 0.354 | 0.024 | ... | ... | -1.48 | 0.43 | -1.36 | 0.15 |
| CS 29502-0062 | 11.124 | 0.342 | 0.135 | 0.399 | 0.502 | 0.021 | -0.54 | 0.21 | -0.32 | 0.27 | -0.50 | 0.15 |
| CS 29502-0082 | 11.062 | 0.347 | 0.153 | 0.406 | 0.563 | 0.011 | -0.35 | 0.33 | +0.3 | 0.4 | +0.00 | 0.17 |
| CS 29512-0043 | 13.322 | 0.355 | 0.064 | 0.236 | 0.255 | 0.022 | -1.56 | 0.35 | -2.20 | 0.29 | -2.13 | 0.15 |
| CS 29512-0049 | 13.619 | 0.269 | 0.099 | 0.537 | 0.380 | 0.021 | -1.11 | 0.79 | -0.68 | 0.52 | -1.01 | 0.15 |
| CS 29512-0060 | 13.103 | 0.292 | 0.126 | 0.510 | 0.434 | 0.027 | ... | ... | -0.30 | 0.83 | -0.57 | 0.16 |
| CS 29516-0080 | 13.754 | 0.453 | 0.184 | 0.144 | 0.650 | 0.056 | -1.43 | 0.20 | -0.7 | 0.3 | -0.70 | 0.31 |
| CS 29522-0064 | 13.426 | 0.395 | 0.074 | 0.350 | 0.448 | 0.030 | ... | ... | -1.23 | 0.62 | -1.32 | 0.18 |
| CS 29522-0082 | 13.715 | 0.327 | 0.056 | 0.533 | 0.365 | 0.029 | ... | ... | -1.28 | ≥ 1.0 | -0.95 | 0.15 |
| CS 29527-0003 | 13.121 | 0.293 | 0.049 | 0.379 | 0.235 | 0.015 | ... | ... | -1.93 | 0.57 | -1.78 | 0.16 |
| CS 29527-0014 | 13.741 | 0.310 | 0.064 | 0.356 | 0.399 | 0.013 | ... | ... | -0.81 | 0.66 | -0.71 | 0.15 |
| CS 29527-0066 | 12.847 | 0.253 | 0.049 | 0.713 | 0.225 | 0.013 | ... | ... | -2.06 | 0.83 | -1.42 | 0.24 |
| CS 29528-0040 | 13.569 | 0.362 | 0.108 | 0.098 | 0.416 | 0.010 | ... | ... | -1.18 | 0.59 | -1.11 | 0.15 |
| CS 29528-0046 | 13.920 | 0.381 | 0.028 | 0.188 | 0.308 | 0.012 | ... | ... | -2.04 | 0.56 | -1.65 | 0.15 |
| CS 30311-0022 | 14.123 | 0.322 | 0.032 | 0.296 | 0.203 | 0.007 | -3.24 | 0.52 | -2.5 | 0.3 | -2.94 | 0.26 |
| CS 30311-0038 | 14.345 | 0.472 | 0.009 | 0.063 | 0.256 | 0.006 | ... | ... | ≤ -2.5 | ... | -2.50 | 0.16 |
| CS 30311-0068 | 14.005 | 0.277 | 0.068 | 0.549 | 0.268 | 0.016 | -2.01 | 0.47 | -1.57 | 0.28 | -1.46 | 0.20 |
| CS 30312-0131 | 13.321 | 0.342 | 0.024 | 0.480 | 0.264 | 0.065 | ... | ... | -2.02 | 0.31 | -2.24 | 0.15 |
| CS 30315-0013 | 10.534 | 0.309 | 0.133 | 0.483 | 0.483 | 0.006 | -0.48 | 0.44 | 0.00 | 0.48 | -0.26 | 0.18 |
| CS 30315-0016 | 13.145 | 0.301 | 0.052 | 0.588 | 0.298 | 0.005 | ... | ... | -1.48 | 0.31 | -1.84 | 0.15 |
| CS 30320-0069 | 14.450 | 0.299 | 0.065 | 0.191 | 0.207 | 0.013 | -1.85 | 1.00 | -2.38 | 0.75 | -1.97 | 0.15 |
| CS 30320-0109 | 13.734 | 0.358 | 0.034 | 0.463 | 0.741 | 0.018 | -2.63 | 0.40 | ≥ 0.5 | 0.4 | -2.35 | 0.15 |
| CS 30331-0029 | 12.266 | 0.309 | 0.034 | 0.374 | 0.211 | 0.052 | -3.42 | 0.79 | -2.38 | 0.36 | -2.12 | 0.15 |

TABLE 5B. (continued)

| BPS ID (1) | V_o (2) | $(b-y)_o$ (3) | m_0 (4) | c_0 (5) | hk_o (6) | $E(b-y)$ (7) | $[\text{Fe}/\text{H}]_{m1}$ (8) | σ_{Fe} (9) | $[\text{Fe}/\text{H}]_{hk}$ (10) | σ_{Fe} (11) | $[\text{Fe}/\text{H}]_{K3}$ (12) | σ_{Fe} (13) |
|---------------|--------------|------------------|--------------|--------------|---------------|-----------------|------------------------------------|----------------------|-------------------------------------|-----------------------|-------------------------------------|-----------------------|
| CS 30332-0037 | 12.512 | 0.275 | 0.160 | 0.421 | 0.472 | 0.028 | -0.05 | 0.36 | +0.2 | 0.5 | -0.38 | 0.21 |
| CS 30494-0003 | 12.320 | 0.462 | 0.041 | 0.232 | 0.303 | 0.018 | -2.32 | 0.49 | -2.5 | 0.3 | -2.40 | 0.15 |
| CS 31061-0010 | 12.979 | 0.416 | 0.157 | 0.308 | 0.625 | 0.043 | -0.69 | 0.28 | -0.54 | 0.54 | -0.19 | 0.22 |
| CS 31061-0028 | 12.312 | 0.350 | 0.111 | 0.419 | 0.422 | 0.030 | -0.85 | 0.23 | -0.99 | 0.34 | -1.15 | 0.15 |
| CS 31061-0032 | 13.838 | 0.303 | 0.042 | 0.310 | 0.213 | 0.015 | -2.92 | 0.48 | -2.33 | 0.40 | -2.87 | 0.23 |
| CS 31061-0040 | 11.335 | 0.336 | 0.049 | 0.362 | 0.277 | 0.021 | -2.08 | 0.32 | -1.85 | 0.34 | -1.98 | 0.15 |
| CS 31061-0064 | 13.133 | 0.325 | 0.129 | 0.303 | 0.438 | 0.036 | ... | ... | -0.65 | 0.73 | -0.83 | 0.15 |
| CS 31061-0072 | 13.945 | 0.338 | 0.098 | 0.189 | 0.317 | 0.013 | -1.00 | 0.78 | -1.60 | 0.56 | -1.92 | 0.15 |
| CS 31061-0084 | 10.504 | 0.278 | 0.126 | 0.455 | 0.418 | 0.024 | -0.57 | 0.18 | -0.37 | 0.30 | -0.23 | 0.23 |
| CS 31061-0085 | 13.088 | 0.309 | 0.154 | 0.390 | 0.469 | 0.024 | -0.18 | 0.60 | -0.14 | 0.41 | -0.15 | 0.19 |
| CS 31063-0009 | 13.519 | 0.400 | 0.069 | 0.339 | 0.395 | 0.033 | -2.06 | 0.98 | -1.58 | 0.64 | -1.32 | 0.18 |
| CS 31063-0025 | 13.881 | 0.353 | 0.205 | 0.176 | 0.570 | 0.016 | ... | ... | +0.3 | 0.6 | -0.12 | 0.17 |
| CS 31063-0091 | 13.649 | 0.403 | 0.207 | 0.233 | 0.638 | 0.027 | -0.43 | 0.19 | 0.0 | 0.9 | -0.28 | 0.20 |
| CS 31066-0008 | 13.681 | 0.340 | -0.007 | 0.460 | 0.198 | 0.001 | ... | ... | -2.7 | 0.4 | -2.30 | 0.15 |
| CS 31067-0002 | 13.961 | 0.376 | 0.118 | 0.310 | 0.534 | 0.056 | ... | ... | -0.58 | 0.66 | ... | ... |
| CS 31067-0019 | 12.309 | 0.315 | 0.044 | 0.262 | 0.227 | 0.067 | -2.54 | 0.86 | -2.24 | 0.47 | -2.04 | 0.15 |
| CS 31067-0078 | 13.155 | 0.357 | 0.157 | 0.366 | 0.508 | 0.064 | -0.35 | 0.97 | -0.53 | 0.37 | -0.55 | 0.15 |
| CS 31070-0073 | 14.239 | 0.273 | 0.166 | 0.231 | 0.335 | 0.037 | ... | ... | -1.09 | 0.80 | -2.32 | 0.22 |
| CS 31070-0074 | 14.625 | 0.259 | 0.242 | 0.236 | 0.461 | 0.020 | ... | ... | +0.2 | 0.6 | -0.76 | 0.18 |
| CS 31071-0043 | 13.358 | 0.263 | 0.182 | 0.324 | 0.535 | 0.134 | ... | ... | ≥ 0.5 | ≥ 1.0 | ... | ... |
| CS 31071-0071 | 13.567 | 0.311 | 0.186 | 0.357 | 0.474 | 0.078 | 0.28 | 0.99 | -0.12 | ≥ 1.0 | ... | ... |
| CS 31074-0049 | 13.532 | 0.356 | 0.100 | 0.368 | 0.446 | 0.061 | -1.00 | 0.74 | -0.88 | 0.62 | -1.23 | 0.15 |
| CS 31074-0083 | 13.812 | 0.312 | 0.023 | 0.566 | 0.364 | 0.050 | -0.97 | 0.23 | -1.16 | 0.61 | -1.06 | 0.15 |
| CS 31074-0084 | 13.534 | 0.418 | 0.307 | 0.135 | 0.799 | 0.040 | ... | ... | ≥ 0.5 | ≥ 1.0 | -0.19 | 0.22 |
| CS 31074-0101 | 13.254 | 0.426 | 0.228 | 0.327 | 0.702 | 0.051 | -0.04 | 0.38 | +0.1 | ≥ 1.0 | -0.19 | 0.22 |
| CS 31074-0105 | 13.971 | 0.391 | 0.066 | 0.092 | 0.334 | 0.049 | ... | ... | -1.93 | 0.65 | ... | ... |
| CS 31079-0004 | 12.874 | 0.281 | 0.105 | 0.289 | 0.283 | 0.062 | ... | ... | -1.49 | 0.43 | -1.88 | 0.23 |
| CS 31079-0014 | 13.084 | 0.462 | 0.397 | 0.213 | 0.939 | 0.079 | -0.48 | 0.39 | ≥ 0.5 | ≥ 1.0 | ... | ... |
| CS 31079-0021 | 13.760 | 0.345 | 0.180 | 0.228 | 0.492 | 0.066 | ... | ... | -0.50 | 0.69 | -0.37 | 0.15 |
| CS 31079-0028 | 12.957 | 0.488 | 0.014 | 0.239 | 0.294 | 0.059 | ... | ... | ≤ -2.5 | 0.3 | -2.19 | 0.15 |
| CS 31079-0040 | 12.970 | 0.314 | 0.140 | 0.499 | 0.544 | 0.056 | ... | ... | ≥ 0.5 | ≥ 1.0 | -0.15 | 0.19 |
| CS 31079-0053 | 12.865 | 0.271 | 0.115 | 0.556 | 0.388 | 0.037 | -0.77 | 0.23 | -0.62 | 0.27 | -0.64 | 0.17 |
| CS 31082-0036 | 13.129 | 0.362 | -0.010 | 0.392 | 0.218 | 0.017 | ... | ... | -2.6 | 0.4 | -2.09 | 0.15 |
| CS 31084-0021 | 13.121 | 0.487 | 0.198 | 0.098 | 0.627 | 0.116 | ... | ... | -0.96 | ≥ 1.0 | ... | ... |
| CS 31090-0015 | 13.794 | 0.364 | 0.071 | 0.322 | 0.389 | 0.000 | -1.43 | 0.82 | -1.37 | 0.72 | -1.51 | 0.15 |
| CS 31090-0053 | 13.615 | 0.370 | 0.054 | 0.269 | 0.321 | 0.000 | ... | ... | -1.81 | 0.30 | -2.35 | 0.15 |
| CS 31090-0082 | 13.707 | 0.361 | 0.082 | 0.398 | 0.478 | 0.002 | ... | ... | -0.73 | 0.57 | -0.55 | 0.15 |
| CS 31090-0084 | 13.740 | 0.454 | 0.250 | 0.304 | 0.908 | 0.003 | -0.17 | 0.33 | ≥ 0.5 | ≥ 1.0 | -1.97 | 0.15 |
| CS 31090-0086 | 11.088 | 0.331 | 0.046 | 0.303 | 0.219 | 0.001 | -2.24 | 0.18 | -2.41 | 0.27 | -2.22 | 0.15 |

TABLE 5C. Reddening Corrected Indices and Abundance Estimates for FHB and Other High- c_0 Stars

| BPS ID (1) | V_o (2) | $(b-y)_o$ (3) | m_0 (4) | c_0 (5) | hk_o (6) | $E(b-y)$ (7) | [Fe/H] (hk) (8) | σ_{Fe} (9) | [Fe/H] ($K3$) (10) | σ_{Fe} (11) |
|---------------|--------------|------------------|--------------|--------------|---------------|-----------------|------------------------|----------------------|-------------------------|-----------------------|
| BS 16089-0042 | 14.359 | 0.334 | 0.042 | 0.747 | 0.245 | -0.010 | -1.8 | 0.2 | -2.16 | 0.15 |
| BS 17570-0011 | 12.806 | 0.349 | 0.041 | 0.698 | 0.205 | 0.016 | -2.1 | 0.1 | -2.65 | 0.23 |
| BS 17571-0082 | 11.346 | 0.378 | 0.120 | 0.645 | 0.454 | 0.156 | ≥ -1.0 | ... | -1.65 | 0.15 |
| BS 17574-0050 | 9.836 | 0.299 | 0.162 | 0.753 | 0.481 | 0.158 | ≥ -1.0 | ... | -1.76 | 0.15 |
| BS 17574-0129 | 10.243 | 0.364 | 0.074 | 0.685 | 0.289 | 0.118 | -1.7 | 0.1 | -2.19 | 0.15 |
| BS 17574-0132 | 11.957 | 0.396 | 0.110 | 0.645 | 0.419 | 0.135 | ≥ -1.0 | ... | -1.89 | 0.15 |
| BS 17575-0011 | 10.915 | 0.307 | 0.127 | 0.657 | 0.432 | 0.139 | ≥ -1.0 | ... | -1.06 | 0.15 |
| BS 17575-0052 | 10.880 | 0.208 | 0.137 | 0.761 | 0.384 | 0.098 | ≥ -1.0 | ... | -0.69 | 0.19 |
| BS 17575-0136 | 10.116 | 0.231 | 0.145 | 0.770 | 0.450 | 0.166 | ≥ -1.0 | ... | -0.05 | 0.26 |
| BS 17575-0186 | 12.058 | 0.263 | 0.121 | 0.635 | 0.411 | 0.246 | ≥ -1.0 | ... | -0.10 | 0.25 |
| BS 17575-0213 | 11.760 | 0.274 | 0.135 | 0.578 | 0.435 | ≤ 0.246 | ≥ -1.0 | ... | -0.87 | 0.15 |
| BS 17580-0037 | 12.186 | 0.324 | 0.128 | 0.692 | 0.399 | 0.184 | -1.0 | 0.2 | -1.92 | 0.15 |
| BS 17583-0023 | 11.560 | 0.386 | 0.136 | 0.584 | 0.596 | 0.057 | ≥ -1.0 | ... | -0.53 | 0.17 |
| BS 17583-0028 | 12.745 | 0.382 | 0.091 | 0.531 | 0.393 | 0.059 | ≥ -1.0 | ... | -1.71 | 0.15 |
| BS 17583-0032 | 11.120 | 0.298 | 0.146 | 0.725 | 0.456 | 0.078 | ≥ -1.0 | ... | -1.76 | 0.15 |
| BS 17583-0052 | 11.854 | 0.260 | 0.144 | 0.658 | 0.462 | 0.067 | ≥ -1.0 | ... | -0.22 | 0.24 |
| BS 17583-0067 | 12.261 | 0.219 | 0.205 | 0.633 | 0.454 | 0.064 | ≥ -1.0 | ... | -2.22 | 0.26 |
| CS 22174-0031 | 13.893 | 0.337 | -0.054 | 0.670 | 0.199 | 0.019 | -2.1 | 0.2 | -1.76 | 0.15 |
| CS 22955-0134 | 13.692 | 0.344 | 0.074 | 0.737 | 0.310 | 0.030 | -1.5 | 0.2 | -1.45 | 0.15 |
| CS 29502-0011 | 13.039 | 0.272 | 0.088 | 0.670 | 0.276 | 0.026 | -1.4 | 0.2 | -2.32 | 0.22 |
| CS 29506-0039 | 13.703 | 0.273 | 0.040 | 0.646 | 0.288 | 0.018 | -1.5 | 0.8 | -1.26 | 0.17 |
| CS 31061-0047 | 11.543 | 0.257 | 0.131 | 0.729 | 0.398 | 0.045 | ≥ -1.0 | ... | -0.89 | 0.16 |
| CS 31071-0023 | 12.943 | 0.363 | 0.097 | 0.590 | 0.505 | 0.186 | ≥ -1.0 | ... | ... | ... |
| CS 31071-0044 | 11.886 | 0.259 | 0.130 | 0.719 | 0.424 | 0.127 | ≥ -1.0 | ... | -0.22 | 0.24 |
| CS 31079-0035 | 13.349 | 0.294 | 0.120 | 0.658 | 0.438 | 0.070 | ≥ -1.0 | ... | -1.09 | 0.15 |
| BS 16076-0006 | 13.444 | 0.398 | 0.057 | 0.725 | 0.250 | 0.026 | ≤ -2.0 | ... | -2.91 | 0.34 |
| BS 16077-0047 | 14.383 | 0.460 | -0.155 | ... | 0.043 | 0.004 | ≤ -3.0 | ... | -2.74: | 0.27 |
| BS 16474-0093 | 12.628 | 0.399 | 0.066 | ... | 0.347 | -0.004 | ≥ -1.5 | ... | -2.08 | 0.15 |
| BS 16477-0026 | 14.807 | 0.266 | 0.070 | 1.488 | 0.193 | 0.018 | -2.0 | 0.1 | -1.68: | 0.26 |
| BS 16547-0043 | 13.657 | 0.331 | 0.067 | 0.799 | 0.276 | 0.051 | -1.7 | 0.4 | -2.30 | 0.15 |
| BS 16552-0043 | 14.578 | 0.374 | 0.173 | 0.996 | 0.582 | 0.010 | ≥ -1.0 | ... | ... | ... |
| BS 17574-0116 | 11.204 | 0.290 | 0.151 | 0.837 | 0.440 | 0.146 | ≥ -1.0 | ... | -1.54 | 0.15 |
| BS 17575-0091 | 12.040 | 0.168 | 0.180 | 0.846 | 0.439 | 0.114 | ≥ -1.0 | ... | -1.68: | 0.26 |
| BS 17580-0104 | 9.564 | 0.309 | 0.140 | 0.893 | 0.478 | 0.183 | ≥ -1.0 | ... | -0.94 | 0.15 |
| BS 17582-0059 | 13.299 | 0.260 | 0.116 | ... | 0.398 | 0.043 | ≥ -1.0 | ... | -0.64 | 0.19 |
| BS 17585-0019 | 9.571 | 0.289 | 0.126 | 0.890 | 0.432 | 0.196 | ≥ -1.0 | ... | -0.97 | 0.15 |
| BS 17585-0132 | 11.583 | 0.348 | 0.171 | 0.805 | 0.480 | 0.189 | ≥ -1.0 | ... | -2.65 | 0.23 |
| BS 17586-0053 | 12.312 | 0.318 | 0.023 | 0.940 | 0.249 | 0.011 | -1.8 | 0.3 | -2.87 | 0.23 |
| CS 22965-0053 | 12.598 | 0.268 | 0.112 | 0.857 | 0.343 | 0.047 | -1.0 | 0.1 | -1.66 | 0.21 |
| CS 29502-0093 | 11.516 | 0.261 | 0.151 | 0.820 | 0.417 | 0.036 | ≥ -1.0 | ... | -2.36 | 0.25 |
| CS 30317-0056 | 13.931 | 0.329 | ... | ... | 0.182 | 0.013 | -2.2 | 0.4 | -2.94 | 0.26 |
| CS 30331-0126 | 12.547 | 0.299 | 0.103 | 0.817 | 0.338 | 0.045 | -1.2 | 0.2 | -1.58 | 0.15 |
| CS 30332-0112 | 12.359 | 0.249 | 0.108 | 0.865 | 0.369 | 0.047 | ≥ -1.0 | ... | -1.15 | 0.19 |
| CS 31061-0020 | 13.054 | 0.314 | 0.087 | 0.808 | 0.349 | 0.026 | -1.2 | 0.1 | -1.58 | 0.15 |
| CS 31061-0057 | 14.106 | 0.400 | -0.077 | 0.820 | 0.060 | 0.010 | ≤ -3.0 | ... | -3.51 | 0.31 |
| CS 31061-0091 | 13.580 | 0.263 | 0.029 | 0.957 | 0.174 | 0.016 | -2.1 | 0.5 | -1.68 | 0.26 |
| CS 31074-0038 | 14.330 | 0.279 | 0.009 | 0.940 | 0.168 | 0.050 | -2.2 | 0.3 | -2.16 | 0.22 |
| CS 31084-0042 | 11.373 | 0.330 | 0.111 | 1.004 | 0.395 | 0.225 | ≥ -1.0 | 0.1 | -1.84 | 0.15 |

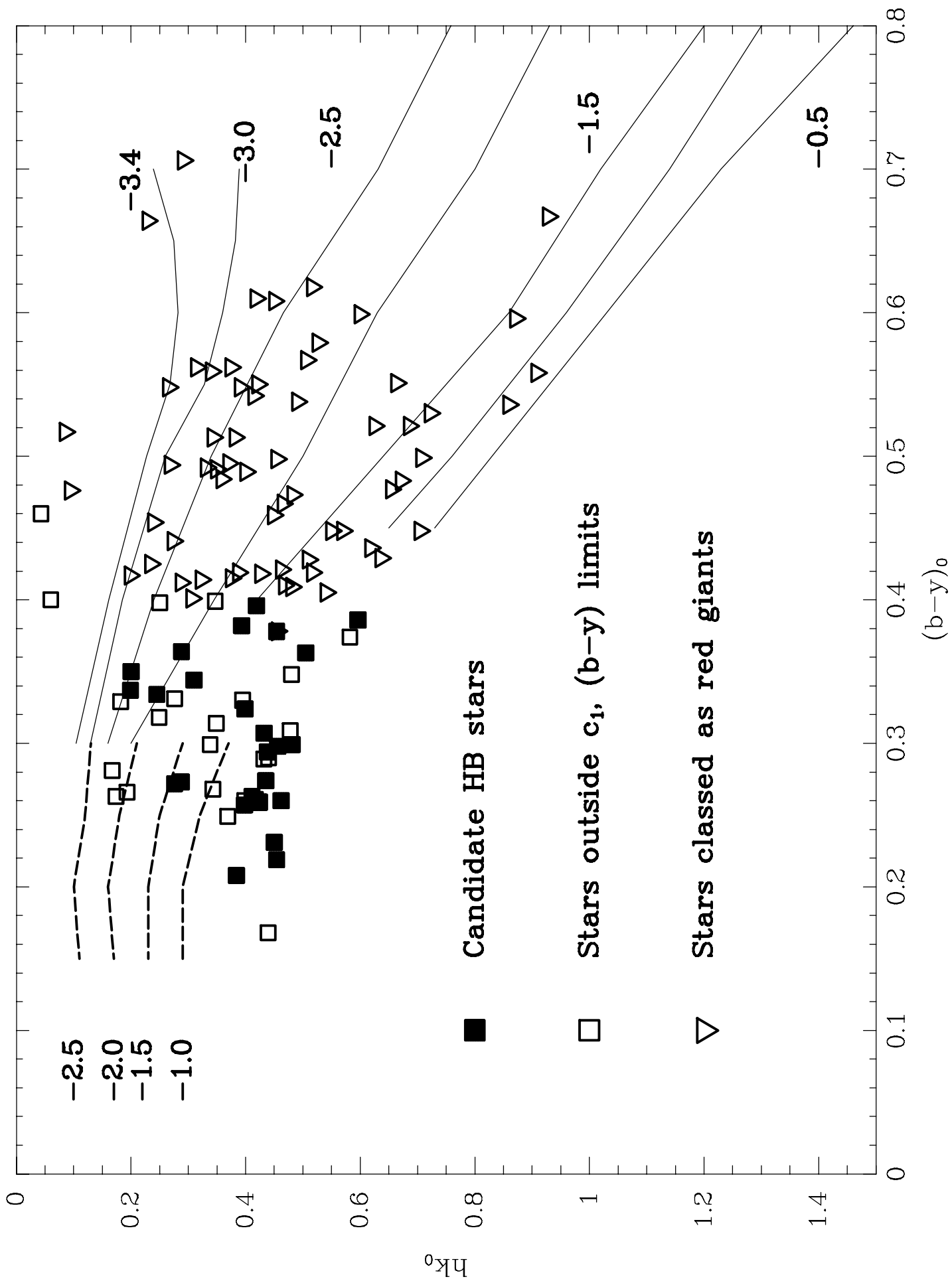


TABLE 6. Stars with Indications of Extreme Metal Paucity

| BPS ID | RA (1950) | DEC | V | $(b - y)$ | Class | $[\text{Fe}/\text{H}]_{ph}$ | σ_{Fe} | $[\text{Fe}/\text{H}]_{K3}$ | σ_{Fe} |
|---------------|------------|-----------|--------|-----------|-------|-----------------------------|---------------|-----------------------------|---------------|
| BS 17570-0063 | 00 17 59.9 | +23 30 59 | 14.573 | 0.327 | dwarf | -2.3 | 0.7 | -3.32 | 0.23 |
| CS 22174-0012 | 01 11 45.4 | -08 45 35 | 14.983 | 0.545 | giant | -3.0 | 0.2 | -2.59 | 0.15 |
| CS 22962-0006 | 01 35 27.2 | -05 14 47 | 12.845 | 0.298 | dwarf | ≤ -3.0 | 0.7 | ... | ... |
| CS 22189-0003 | 02 29 57.1 | -15 19 56 | 13.578 | 0.289 | dwarf | ≤ -3.0 | 0.53 | ... | ... |
| CS 31061-0062 | 02 30 12.3 | +05 31 52 | 13.892 | 0.447 | giant | ≤ -2.7 | ... | -2.56 | 0.24 |
| CS 31061-0057 | 02 33 20.2 | +02 33 26 | 14.149 | 0.410 | fhb | ≤ -3.0 | ... | -3.51 | 0.31 |
| CS 31061-0032 | 02 36 07.0 | +03 06 08 | 13.903 | 0.318 | dwarf | -2.6 | 0.3 | -2.87 | 0.23 |
| CS 22189-0009 | 02 39 18.9 | -13 41 01 | 14.056 | 0.511 | dwarf | -2.4 | 0.4 | -3.07 | 0.24 |
| CS 22177-0009 | 04 05 34.3 | -25 10 36 | 14.301 | 0.306 | dwarf | -2.3 | 0.9 | -3.00 | 0.21 |
| BS 17585-0080 | 04 20 11.7 | +15 08 01 | 13.159 | 0.809 | giant | -2.7 | 0.2 | -2.14 | 0.27 |
| BS 17139-0018 | 08 52 29.1 | +30 39 13 | 14.375 | 0.404 | dwarf | -2.9 | 0.6 | ... | ... |
| BS 16945-0054 | 10 48 10.2 | +34 17 34 | 13.669 | 0.450 | dwarf | ≤ -3.0 | 0.4 | -2.74 | 0.27 |
| BS 16545-0089 | 11 21 45.9 | +37 06 57 | 14.438 | 0.317 | dwarf | -3.1 | 0.4 | -3.59 | 0.20 |
| BS 16557-0074 | 11 23 39.3 | -11 10 12 | 12.258 | 0.330 | dwarf | -2.6 | 0.4 | -2.54 | 0.17 |
| BS 16077-0007 | 11 32 39.7 | +31 17 05 | 12.346 | 0.338 | dwarf | ≤ -3.0 | 0.4 | -2.94 | 0.26 |
| BS 16077-0047 | 11 44 27.6 | +32 02 22 | 14.400 | 0.464 | fhb | ≤ -3.0 | ... | -2.74 | 0.27 |
| BS 16470-0061 | 12 16 12.6 | +15 48 44 | 14.164 | 0.350 | dwarf | -2.5 | 0.2 | -2.45 | 0.16 |
| BS 16022-0034 | 12 16 32.1 | +25 47 38 | 12.112 | 0.451 | dwarf | -2.6 | 0.3 | ... | ... |
| BS 16085-0050 | 12 35 16.7 | +19 39 14 | 12.159 | 0.562 | giant | -2.9 | 0.1 | -3.02 | 0.15 |
| CS 22877-0011 | 13 12 02.8 | -09 20 00 | 13.830 | 0.460 | dwarf | -2.5 | ... | -2.67 | 0.25 |
| BS 16543-0057 | 13 18 05.4 | +22 38 59 | 14.289 | 0.381 | dwarf | ≤ -3.0 | 1.0 | -2.54 | 0.20 |
| CS 30311-0038 | 13 19 27.5 | +02 40 34 | 14.371 | 0.478 | dwarf | ≤ -2.5 | ... | -2.50 | 0.16 |
| CS 30311-0022 | 13 20 38.6 | +04 52 03 | 14.153 | 0.329 | dwarf | -2.7 | 0.3 | -2.94 | 0.26 |
| BS 16543-0092 | 13 22 56.9 | +19 45 23 | 14.157 | 0.666 | giant | ≤ -3.0 | ... | -2.61 | 0.18 |
| BS 16972-0041 | 13 25 43.1 | +15 42 33 | 12.984 | 0.329 | dwarf | -2.7 | 0.2 | -2.16 | 0.15 |
| BS 16467-0062 | 13 39 36.1 | +18 03 40 | 14.025 | 0.480 | dwarf | ≤ -2.5 | ... | -3.13 | 0.30 |
| BS 16089-0013 | 13 47 10.4 | +35 59 45 | 13.325 | 0.540 | giant | -2.5 | 0.2 | -2.69 | 0.15 |
| BS 16023-0046 | 13 58 35.0 | +23 01 17 | 14.230 | 0.262 | dwarf | -2.5 | 0.7 | -3.03 | 0.19 |
| BS 16477-0003 | 14 30 28.2 | +06 59 16 | 14.194 | 0.558 | giant | -3.1 | 0.2 | -3.28 | 0.19 |
| BS 16981-0009 | 14 30 43.3 | +00 53 50 | 13.663 | 0.466 | giant | -2.8 | 0.2 | -2.54 | 0.21 |
| BS 16472-0018 | 14 53 48.9 | +02 04 40 | 13.560 | 0.539 | giant | -2.5 | 0.2 | -2.41 | 0.15 |
| BS 15624-0067 | 16 27 29.0 | +45 09 29 | 13.088 | 0.415 | dwarf | -2.3 | 0.3 | -2.46 | 0.21 |
| BS 16084-0160 | 16 27 43.8 | +54 43 33 | 13.156 | 0.615 | giant | -2.6 | 0.1 | -3.22 | 0.15 |
| BS 16080-0054 | 16 38 37.9 | +61 03 29 | 12.789 | 0.564 | giant | -2.7 | 0.2 | -2.89 | 0.15 |
| CS 22878-0101 | 16 43 06.8 | +08 20 11 | 13.744 | 0.626 | giant | -2.8 | 0.2 | -3.05 | 0.15 |
| BS 17447-0029 | 17 48 26.6 | +60 12 42 | 13.585 | 0.333 | dwarf | -2.6 | 0.5 | -3.08 | 0.24 |
| CS 22950-0046 | 20 18 41.6 | -13 26 11 | 14.234 | 0.761 | giant | -2.9 | 0.2 | -3.54 | 0.15 |
| CS 22950-0153 | 20 29 45.8 | -15 58 12 | 13.725 | 0.489 | giant | -2.7 | 0.2 | -2.12 | 0.15 |
| CS 29506-0019 | 21 17 25.9 | -18 25 30 | 14.358 | 0.495 | giant | -3.0 | ... | -2.55 | 0.19 |
| CS 30331-0029 | 21 18 29.6 | -27 36 32 | 12.490 | 0.361 | dwarf | -2.6 | 0.3 | -2.12 | 0.15 |
| CS 29502-0009 | 22 24 50.2 | +01 43 16 | 13.764 | 0.522 | giant | -2.5 | 0.2 | -2.55 | 0.15 |
| CS 22957-0022 | 23 59 11.7 | -06 06 27 | 13.352 | 0.509 | giant | -2.8 | 0.2 | -2.72 | 0.20 |