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ATLAS OF INTERSTELLAR EXTINCTION CURVES OF OB STARS COVERING THE WHOLE AVAILABLE WAVELENGTH RANGE

Walter Wegner

Academy of Bydgoszcz, Faculty of Physics, Department of Mathematics, Technology and Science, Chodkiewicza 30, 85-064 Bydgoszcz, Poland

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Abstract. The paper presents a collection of 436 extinction curves covering the whole available range of wavelengths from satellite UV to near-IR. The data were taken from the ANS photometric catalogue and from the compilations of IR photometric measurements. The data curves have been obtained with the aid of "artificial standards": Papaj et al. (1993) and Wegner (1994, 1995). The visual magnitudes and spectral classifications of O and B type stars with $E_{B-V} \geq 0.05$ were taken from the SIMBAD database. The curves are given in the form of plots and tables $E_{\lambda-V}/E_{B-V}$ versus $1/\lambda$. The observed variety of extinction laws among slightly reddened stars is apparently due to the various physical parameters of interstellar clouds.

Key words: interstellar medium – ultraviolet and infrared extinction – OB stars

1. INTRODUCTION

The interstellar extinction of starlight is the most indicative phenomenon revealing the presence of diffuse dark matter in the Galaxy. The most popular measure of extinction (reddening) is the color excesses

$$E_{B-V} = A_B - A_V = (B-V) - (B-V)_0, \qquad (1)$$

where $(B-V)$ is the color index of the observed star, $(B-V)_0$ denotes its intrinsic value (characteristic for the Sp/L of the star), whereas A_B and A_V are the total extinctions in the B and V passbands, respectively.

The extinction curve – the dependence of extinction on wavelength – is usually calculated and presented in the form of ratios of consecutive color excesses to E_{B-V}; i.e., $E_{\lambda-V}/E_{B-V}$ versus $1/\lambda$ – see Fig. 1. This figure reveals the typical features of the extinction curve: in the range of the near infrared passbands (*R, I, J, H, K, L, M*) the normalized extinction is proportional to λ^{-3} or λ^{-4}, next nearly linear in the visual wavelength range, in the near-UV we observe a "knee" and further the top of the 2200 Å bump. Blueward of the bump we observe a descending segment of the curve, followed with the final far-UV growth or decrease (Papaj et al. 1991).

The extinction curve sometimes is presented in the form $A(\lambda)/A(V)$ versus $1/\lambda$. In this paper we use the traditional form since accuracies of color excesses are usually much higher than those of total extinction at any wavelength. Thus the extinction curve does not give us absolute extinction values, but only relative ones. To "translate" the curve into absolute extinctions, necessary to deredden real stars, one has to determine at least one value of absolute extinction, e.g. in the V passband. A widely adopted parameter which makes it possible is the total-to-selective extinction ratio:

$$R = A_V/E_{B-V}, \tag{2}$$

where A_V represents the total extinction.

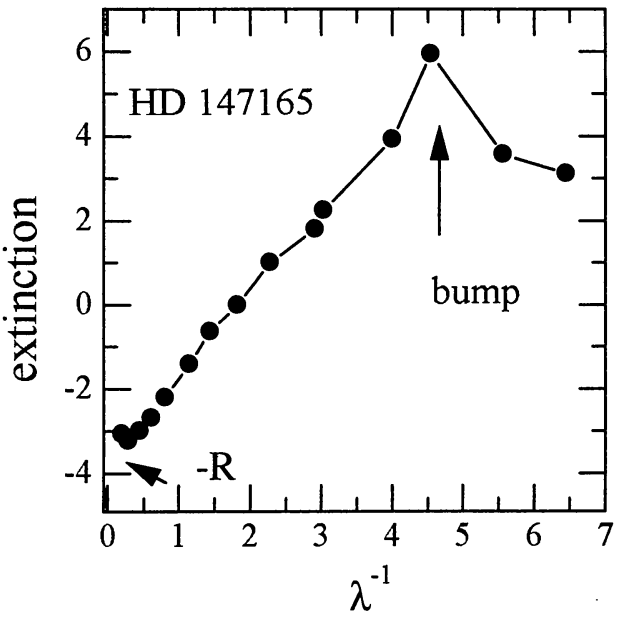

Fig. 1. The extinction $E_{\lambda-V}/E_{B-V}$ versus reciprocal wavelength for HD 147165. The curve cuts the ordinate axis at the point $-R = -3.22$.

In a plot such as that in Fig. 1, the absolute value of R is represented by the point where the curve intersects the ordinate axis, i.e., for $1/\lambda = 0$. The extinction for infinite wavelength should be zero by definition. This method (extrapolation method) may be adopted to estimate R for an individual object. A difficulty arises from the extrapolation of the curve. When the wavelength is large in comparison to the grain size, the curve should behave like λ^{-4}. In the far infrared this condition is certainly fulfilled. This method, adopted to nearby Be stars with circumstellar shells, suggests unusually high R value resulting from the emission in IR of the energy absorbed from the stellar radiation by interstellar grains. In this case, this method is not correct to determine the value of R.

The extinction curve certainly contains information about chemical composition, crystalline structure and other properties of the interstellar dust particles in single clouds. For stars, heavily obscured by interstellar matter, we can apply the mean interstellar curve in the infrared range (see "universal law" of Rieke & Lebofsky (1985) or the "mean interstellar extinction law" (see Wegner 1993).

Until now several surveys of extinction curves have been published. The ultraviolet range appears to be the most sensitive one to possible changes of conditions inside different clouds. Four extensive surveys of extinction curves, based on data from the TD-1 and IUE satellites, are presently available in the literature: Aiello et al. (1988), Fitzpatrick & Massa (1990), Papaj et al. (1991) and Megier et al. (1997). The atlas of Aiello et al. (1988) uses IUE spectra of 115 OB stars which are moderately to heavily reddened (E_{B-V} from 0.3 to 1.0 mag) applying spectra from the older OAO-2 satellite as unreddened standards. The survey of Fitzpatrick & Massa (1990) uses 78 IUE spectra and covers the range of reddenings similar to that of Aiello et al. (1988). The atlas of Papaj et al. (1991) uses 166 OB stars which are slightly to moderately reddened (E_{B-V} from 0.05 to 0.45 mag) and is based on the TD-1 data from which the "artificial standards" were derived by Papaj et al. (1990). The survey of Megier et al. (1997) is based on "artificial standards" found earlier by Megier (1995); it uses 43 IUE spectra of OB stars reddened from 0.07 to 1.07 mag.

Extensive reviews of extinction properties, based on five bands situated in the UV range (Wesselius et al. 1982) have already been published by Savage et al. (1985), Papaj & Krełowski (1992) and Wegner (1995). The survey of Savage et al. (1985) contains 1415 stars, however, many of them are of negative color excesses, which,

in accordance to Papaj et al. (1991), must be due to mismatch errors. Papaj & Krełowski (1992), using artificial standards, calculated 425 ratios of color excesses $k_\lambda = E_{\lambda-V}/E_{B-V}$ of OB stars. Wegner (1995), using artificial standards, presented 784 ratios of color excesses k_λ based on ANS photometry divided into three "interstellar families" defined by Krełowski & Wegner (1989). Wegner (1993), using artificial IR standards found by the author (1994), presented 500 ratios of color excesses k_λ.

The aim of this paper is the presentation of an Atlas of calculated extinction curves derived for OB stars from their near infrared photometry to the UV ANS photometry in the form of $E_{\lambda-V}/E_{B-V}$ versus reciprocal wavelength $1/\lambda$, using a homogeneous set of artificial IR and UV standards. It seems important for the attempts aiming at modeling interstellar grains to get the theoretically calculated extinction curves matching the observed ones in possibly broad wavelength ranges.

2. THE OBSERVATIONAL MATERIAL, REDUCTION AND RESULTS

Comparing various IR catalogs and the photometric UV survey made with the ANS satellite (Wesselius et al. 1982), we selected a sample of OB stars, for which IR, visual and UV photometric data are available. The total number of stars in this sample is 437. The main sources of IR magnitudes in the *J, H, K, L, M* passbands are the catalogs of Gezari et al. (1984, 1993). The *R* and *I* magnitudes in the Johnson system are taken from Johnson (1966) and Fernie (1983). Their accuracy is of the order of ±0.01. The *V, R, I* magnitudes in the Cousins system (The et al. 1986) were transformed to the revised Johnson system, see Wegner (1993).

All *J, H, K, L, (M)* magnitudes were reduced to the Glass (1974) *JHKL* system, which is tied to the Johnson system, by comparing with standard stars of Glass (1974, 1973).

The Johnson *UBV* data are taken from the SIMBAD database. We have chosen the most recent determinations of visual magnitudes *V* and color indices *B–V*. The accuracy of the *UBV* magnitudes typically is ±0.01 mag. Spectral classifications are taken from the SIMBAD database too. For many stars the estimates of spectral and luminosity classes (Sp/L) of the same stars are not identical. The

differences between the most recent estimates Sp/L(most recent) and most often Sp/L(most often) are given in Table 1.

The stars included in our program are listed in Table 1 which gives HD or BD number, magnitude V, color excess E_{B-V} for the adopted spectral and luminosity class of the star, Sp/L(std) – the adopted spectral and luminosity class of the standard star, Sp/L(most recent) and Sp/L(most often) – spectral and luminosity classes given for this star in SIMBAD. For 60% of our stars Sp/L(most recent) and Sp/L(most often) types are the same, a difference of 0.05 spectral class was found for about 18%, of 0.1 spectral class – for about 16% and of 0.2 spectral class – for about 6%.

The extinction curves have been derived from the photometric IR and ANS measurements using the "artificial standards" from Wegner (1994 and 1995) for the IR range and from Papaj et al. (1993) and Wegner (1995) for the UV range, defined as $k_\lambda = E_{\lambda-V}/E_{B-V}$ according to the most recent spectral classification - see Table 1 (about 80% of OB stars). Several objects showed quite evident mismatch effects – small depressions right after the normalization segments, i.e., in the U and 3300 Å passbands – see Papaj et al. (1991). For many of these stars this effect was eliminated by choosing the "most often" spectral type instead of "most recent" one – see Table 1 (about 5% cases).

In other cases we have chosen the standard star (i.e., Sp/L(std)) hotter than the most recent spectral classification noted in SIMBAD by $\sim$ 0.05 spectral class (about 5% cases), by $\sim$ 0.1 spectral class (about 5% cases) and by $\sim$ 0.2 spectral class or more (also in about 5% cases).

For 30% of Be stars we must have chosen a hotter standard than the "most recent" or the "most often" spectral classification by about 0.05 spectral class. It is possible, that spectral types of these stars are inaccurate due to high rotation velocity.

Table 2 gives the ratios of color excesses $k_\lambda = E_{\lambda-V}/E_{B-V}$ in the U passband and the ANS passbands with their errors. Table 3 gives the ratios of color excesses $k_\lambda = E_{\lambda-V}/E_{B-V}$ in the IR passbands.

The errors of k_λ may be calculated by the equation:

$$\sigma^2_{k_\lambda} = \underbrace{\left[\frac{1}{E_{B-V}}\right]^2 \left[\sigma^2_{m^0_\lambda} + \sigma^2_{m_\lambda} + \sigma^2_V\right]}_{\sigma^2_1} + \underbrace{\left[\frac{k_\lambda \sigma_{E_{B-V}}}{E_{B-V}}\right]^2}_{\sigma^2_2}, \qquad (3)$$

where:
σ_{m_λ} – root-mean-square deviation of the photometric observations at wavelength λ,
σ_V – root-mean-square deviation of the observations at 555 nm,
$\sigma_{m_\lambda^0}$ – "artificial" standard error from Papaj et al. (1993),
$\sigma_{E_{B-V}}$ – color excess error.

For $\sigma_{m(\lambda)}$ and σ_V a value of 0.01 mag was adopted, $\sigma^0_{m(\lambda)}$ does not exceed 0.02 mag in the *R, I* and *J* passbands, 0.03 mag in the *H, K* and *L* passbands and 0.05 mag in the *M* passband; $\sigma_{E_{B-V}}$ does not exceed 0.04 mag.

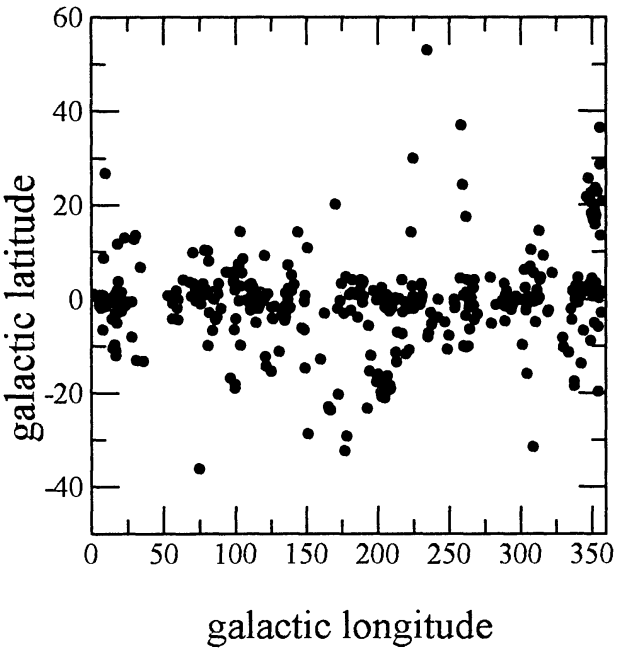

Fig. 2. Distribution of OB stars, considered in this paper, in galactic coordinates.

Fig. 2 shows distribution of OB stars, considered in this paper, in galactic coordinates. About 80% of the Atlas covers the range of galactic latitude $b = \pm 5°$. It is understandable as most of OB stars are young (disk) population objects. Stars of later types are not bright enough in UV to allow construction of their extinction curves.

Fig. 3 shows the relation between the total-to-selective extinction ratio R (i.e., an IR-parameter) and $k_{1500} - k_{2500}$ (i.e., an UV-parameter) for the stars with $E_{B-V} \leq 0.2$ mag and stars obscured by a single cloud – see the Atlas of interstellar NaI (Wegner 1995).

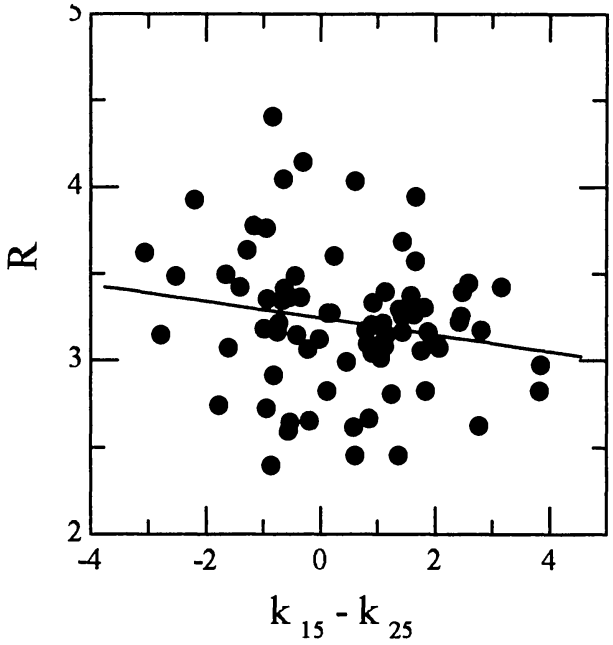

Fig. 3. The dependence between R and $k_{1500} - k_{2500}$ obtained for the OB stars obscured probably by a single cloud.

The Atlas of 436 extinction curves is presented in the form of ratios of consecutive color excesses to E_{B-V}, i.e., $E_{\lambda-V}/E_{B-V}$ versus $1/\lambda$ – see Fig. 1. For every stars the following information is given: the HD or BD number, V, E_{B-V}, spectral and luminosity class of the standard star and the total-to-selective extinction ratio R. The mean galactic extinction curves according to Papaj & Krełowski (1992) in the UV range and according to Wegner (1994) in the IR range are also presented. The R value was calculated by the extrapolation method from the shape of infrared extinction using the λ^{-3} or λ^{-4}) polynomials. For small number of stars with a little number of the observed IR passbands, the R values were calculated by equations of the form $R = ak_\lambda + b$ found by the author (Wegner 2000).

3. CONCLUSIONS

- With the increase of E_{B-V}, the scatter of the k_λ values decreases (Tables 2 and 3). This is due to the averaging when a sight line intersects several clouds of different physical properties.

- The values of R of slightly reddened stars, obscured probably by a single cloud, changes in very wide range (from 2 to 6). It depends on the physical properties of individual clouds.
- The changes of the curve shapes of these stars in the UV range are large (from –4 to +4 mag) and they show a very weak dependence of the curve shape in the UV and IR ranges. In many cases the extinction curves from UV to IR cannot be described by a single parameter, i.e., the total-to-selective extinction ratio R.
- The influence of dust radiation in the K, L and M passbands is sufficiently strong in case of Be stars, and this precludes a possibility to estimate R values for these objects.
- The errors of k_λ for moderate and heavily reddened stars are small (from 5% to 10% of k_λ), they are much larger for the stars with small reddening.
- The extinction curves of slightly reddened stars are very different from the mean galactic curves.
- About 30% of the extinction curves presented in this paper probably belong to the stars obscured by a single cloud. For these stars the physical interpretation of the observed interstellar extinction is possible, using different models of interstellar grains.

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Table 1. Primary data for target stars.

HD	V	E_{B-V}	Sp/L (std)	Sp/L most recent	Sp/L most often
108	7.40	0.48	O6V	O6pe	O8pe
1544	8.14	0.37	B0.5III	B0.5III	B0III
2083	6.89	0.26	B1V	B1V	B1V
2905	4.15	0.30	B0.5Ia	B0.7Ia	B1Ia
3901	4.81	0.085	B2V	B2.5V	B2V
4180	4.61	0.13	B5III	B5III	B2Ve
4841	6.86	0.65	B5Ia	B5Ia	B5Ia
6811	4.25	0.06	B7V	B7III	B7V
7252	7.12	0.32	B1V	B1V	B1V
7902	6.99	0.48	B6Ib	B6Ib	B6Ib
9311	7.14	0.36	B5Ib	B5Ib	B5Ib
10516	4.06	0.20	B0V	B2Vpe	B1IV,Vpe
12867	9.41	0.38	B1V	B1V	B1V
13267	6.29	0.42	B5Ia	B5Ia	B5Ia
13900	9.18	0.38	B1III	B1III	B1IV
13969	8.83	0.54	B1V	B1IV	B1IV
14092	9.23	0.46	B1V	B1V	B1V
14134	6.52	0.58	B3Iab	B3Iab	B3Ia
14250	8.94	0.55	B1V	B1IV	B0.5V,B1II
14322	6.83	0.44	B3Ia	B3Ia	B8Ib
14357	8.50	0.49	B1.5II	B1.5II	B2II
14422	9.08	0.72	B1III	B1IIIpe	B1Vpe
14542	6.98	0.65	B8Ia	B8Ia	B8Iavar
14605	9.34	0.47	B1.5III	B1.5IIIe	B0.5Vpe
14818	6.26	0.46	B2Ia	B2Ia	B2Ia
14947	7.98	0.76	O6V	O5.5f	O6e
14956	7.19	0.88	B2Ia	B2Ia	B2Ia
15497	7.01	0.82	B7Ia	B7Ia	B6Ia
16429	7.67	0.86	O9.5Iab	O9.5Iab	O9.5III
16779	8.86	0.90	B2Ib	B2Ib	B2Ib
16908	4.65	0.04	B3V	B3V	B3V
17114	9.16	0.73	B1V	B1V	B1V
17145	8.15	0.85	B8Ia	B8Ia	B8Ia
17603	8.46	0.92	O8.5I	O8.5If	O7Ve
18352	6.84	0.45	B1V	B1V	B1V
19356	2.12	0.08	B7V	B9V	B8V
19820	7.11	0.76	O9III	O9III	O9IV
21071	6.06	0.06	B7V	B7V	B6V
21212	8.28	0.80	B1.5V	B1.5IVne	B2Ve
21291	4.36	0.46	B8Ia	B9Ia	B9Ia

Table 1 (continued)

HD	V	E_{B-V}	Sp/L (std)	Sp/L most recent	Sp/L most often
21551	5.82	0.09	B7V	B8V	B8IV
23288	5.46	0.09	B7V	B7IV	B7IV
23324	5.64	0.06	B7V	B8V	B8V
23480	4.18	0.08	B6V	B6IV	B6IV
23753	5.45	0.04	B8V	B9Vn	B8V
24431	6.74	0.65	O9V	O9V	O9IV,V
24912	4.04	0.26	B0III	O7.5III	O7evar
25204	3.47	0.075	B2.5V	B3V+	B3V
25348	8.34	0.44	B1V	B1Ve	B1V
26571	6.15	0.27	B9III	B9IIIpSiApSi	B8II,III
29866	6.03	0.14	B8V	B8IVn	B7e
30614	4.30	0.34	O9.5Iab	O9.5Iab	O9.5Ia
32343	5.03	0.125	B2.5V	B2.5Ve	B3Ve
34078	5.94	0.49	O9.5V	O9.5V	O9.5Vvar
34748	6.31	0.11	B2V	B2V	B1.5V
34989	5.79	0.10	B1V	B1V	B1V
35079	7.06	0.15	B3V	B3V	B3V
35149	4.99	0.07	B0.5V	B1V	B1V
35215	9.41	0.31	B1V	B1V	B1V
35411	3.42	0.10	O9.5V	B1V+B2	B1V
35502	7.34	0.11	B5V	B5V	B5V
35653	7.44	0.36	B0.5V	B0.5V	B1V
35673	6.53	0.07	B9V	B9V	B9V
35910	7.57	0.05	B5V	B7V	B6V
36013	6.91	0.04	B3V	B3Vn	B1.5V,B3Vn
36351	5.47	0.03	B1.5V	B1.5V	B1.5V
36629	7.66	0.25	B0.5V	B2Vvar	B2Vvar
36646	6.54	0.075	B2.5V	B2.5V	B2.5V,B4V
36695	5.34	0.06	B0.5V	B1V	B1V
36822	4.42	0.08	B0III	B0III	B0IV
37017	6.57	0.08	B2V	B2V	B1.5V
37040	6.31	0.11	B0.5V	B2IV	B2V
37061	6.83	0.47	B0.5V	B0.5V	B1V,B8
37356	6.20	0.18	B1.5V	B2IV	B2IV,V
37903	7.81	0.32	B1.5V	B1.5V	B2V
38131	8.19	0.45	B0.5V	B0.5V	B1V
38191	8.73	0.37	B1V	B1Ve	B1V
38708	8.22	0.15	B3V	B3peshe	B3peshe
39680	7.85	0.36	O5V	O6pe	O6pe
39746	7.03	0.41	B1II	B1II	B1II
40111	4.83	0.12	B1Ib	B1Ib	B1Ib

Table 1 (continued)

HD	V	E_{B-V}	Sp/L (std)	Sp/L most recent	Sp/L most often
41117	4.64	0.44	B2Ia	B2Ia	B2Iavar
41335	5.21	0.15	B1V	B2Vne+	B2IVne
41398	7.46	0.48	B2Ib	B2Ib	B2Ib
41690	7.73	0.39	B1.5II	B1.5II,III	B1V
42087	5.78	0.34	B2.5Ib	B2.5Ibe	B2.5Ib
42088	7.55	0.36	O6.5V	O6.5V	O6
42259	8.49	0.64	B0V	B0V	B0V
43384	6.26	0.58	B3Iab	B3Iab	B3Iab
43818	6.91	0.51	B0II	B0II	B0II
44139	8.79	0.53	B0.5V	B0.5V	B1V
44458	5.55	0.25	B1V	B1Ve	B1Vpe
44965	7.83	0.42	B3II	B3II	B3II
45314	6.62	0.44	O9V	Ope	O9pe
45626	9.22	0.15	B6V	B7pshe	B7pshe
45910	6.80	0.55	B1III	B2IIIpshevar	B2IIIpshevar
46150	6.73	0.43	O5.5V	O5.5f	O6
46202	8.18	0.46	O9V	O9V	O9V
46380	8.01	0.57	B2V	B2Vne	B2Vne
46484	7.74	0.59	B1V	B1V	B1V
46485	8.26	0.61	O7.5V	O7.5Vne	O8
46559	8.16	0.61	B8Iab	B8Iab	B8Iab
46573	7.93	0.63	O7.5V	O7.5Vf	O7
46660	8.04	0.54	B1V	B1V	B1V
46711	9.09	0.97	B3II	B3II	B3II
46867	8.30	0.44	B0.5III	B0.5III,IV	B0.5V
46883	7.8	0.64	B1V	B1IVnnK	B2V
46966	6.89	0.21	O8.5V	O8.5V	O8
47032	8.83	0.68	B0III	B0III	B0III
47129	6.04	0.29	B0III	O7.5IIIf	O8
47240	6.17	0.34	B1Ib	B1Ib	B1Ib
47432	6.25	0.37	O9.5Iab	O9.5Iab	O9II
48099	6.37	0.25	O6V	O6e	O6e
48279	7.86	0.455	O8V	O8V	O8
48434	5.86	0.21	B0III	B0III	B0III
49585	9.06	0.34	B0.5V	B0.5V	B1V
49787	7.48	0.18	B1V	B1Ve	B1V
50064	8.30	0.82	B6Ia	B6Ia	B6Ia
50658	5.84	0.08	B6V	B8III	B8IV
50820	6.21	0.77	B2V	B3IVe	B3Ve
52266	7.18	0.21	O9.5V	O9.5V	O9V
52382	6.50	0.38	B1Iab	B1Iab	B1Ib

Table 1 (continued)

HD	V	E_{B-V}	Sp/L (std)	Sp/L most recent	Sp/L most often
53367	6.97	0.67	B0III	B0IIIe	B0IVe
53755	6.48	0.19	B0V	B0V	B0V
53974	5.41	0.27	B0III	B0III	B0.5IV
53975	6.45	0.185	B7Iab	B7Iab,Ib	O8
54309	5.82	0.10	B1V	B2Vnn	B3Ve
54439	7.68	0.28	B1V	B1Vn	B2IIIn
54662	6.21	0.26	B0III	O7III	O6
55606	9.07	0.19	B1V	B1Ve	B1V
55879	6.02	0.06	O9.5II	O9.5II,III	B0IV
56847	8.99	0.32	B3Ib	B5Ib	B5-7Ib
57060	4.98	0.14	O7V	O7f	O7e
57061	4.39	0.10	O9Ib	O9Ib	O9III
57150	4.58	0.09	B2V	B2V+B3IVne	B3Ve
57682	6.42	0.09	O9V	O9V	O9V
58343	5.37	0.14	B2V	B2Vne	B2.5IVe
58978	5.60	0.08	B1II	B1II	B0IVpe
59094	8.44	0.36	B2V	B2Vne	B2Vnne
60325	6.22	0.11	B2II	B2II	B1V.B2III
60479	8.45	0.57	O9.5Ib	O9.5Ib	O9.5Ib
60606	5.45	0.12	B2V	B2Vne	B3Vne
60855	5.71	0.09	B2V	B2,B3Vn	B2Ve
61827	7.64	0.81	O8Ib	O8,O9Ib	O8,B3Iab
63462	4.48	0.18	O9.5V	B1IVnne	B1Ve
63922	4.11	0.05	B0III	B0III	B0II,III
64760	4.24	0.08	B0Ib	B0Ib	B3Ib
65875	6.50	0.12	B1.5V	B2.5Ve	B3Ve
68450	6.47	0.21	B0III	B0III	O9.5Iab
68980	4.73	0.12	B0.5V	B2ne	B1.5IIIe,B3p
69106	7.13	0.07	B1II	B1,B2II	B0.5II,III,V
69464	8.78	0.59	O6V	O6,O7	O7e
70930	4.82	0.06	B1III	B2III	B2III
71304	8.22	0.77	O9III	O9III	O9II
73882	7.22	0.63	O9III	O9III	O8V
74194	7.57	0.49	O8V	O8,O9	O9
75211	7.50	0.69	O8II	O8IIf	O8
75222	7.41	0.60	B0II	B0II,III	B0Iab
75759	6.00	0.17	O9V	B1/B2III	O9IV/V
76534	7.96	0.36	B2V	B2Vn	B2Ve,B3Vnpe
76838	7.31	0.25	B0V	B2IV	B3V
76868	7.98	0.39	B4V	B5	B5
76968	7.12	0.39	O9Iab	O9Iab	O9Iab,IV,B0II

Table 1 (continued)

HD	V	E_{B-V}	Sp/L (std)	Sp/L most recent	Sp/L most often
77581	6.88	0.71	B0Ia	B0Ia	B0.5Ib
78785	8.60	0.67	B2II	B2II	B2II
79186	5.01	0.34	B3Ia	B5Ia	B3Iavar
83183	4.10	0.08	B5II	B5II	B5II
84567	6.43	0.15	B0V	B0IV	B2V
88661	5.70	0.15	B1V	B2Vne	B2Ve,B3Ve
89137	7.98	0.09	B2II	B2II	O9.5V
93205	7.75	0.35	O5V	O3V	O3V
93222	8.10	0.35	O8V	O8	O7IIIf
93250	7.37	0.455	O6V	O6,O7	O5
93540	5.37	0.05	B5V	B6V	B6V
93843	7.28	0.27	O5V	O5e	O6III
94963	7.12	0.205	O6V	O6,O7e	O8e
96042	8.23	0.41	B1V	B1Vne	O9.5Ve
96622	8.91	0.39	O9.5V	O9.5IV	O9.5IV
96917	7.07	0.365	O8V	O8	O9.5Ib,II
97253	7.09	0.48	O5V	O5e	O6
97319	8.49	0.505	O8V	O8	O9.5Ib
97434	8.06	0.45	O9V	O9	O8
97670	5.74	0.09	B2III	B2III	B1.5V,B3III
97848	8.68	0.22	B0III	B0III	O9III
97966	8.86	0.35	B7Iab	B7Iab,Ib	O7.5
99160	9.20	0.45	O9II	B7Ib	O7.O9II
100099	8.02	0.38	O8V	O8,O9	O9III
101008	9.14	0.24	O9V	B1II,III	O9V
101131	7.10	0.33	O6V	B5	B5
101190	7.27	0.33	O7V	O7	O7
101205	6.42	0.345	O8Ib	B7,B8Ib	O8var
101298	8.07	0.39	O5V	O5,O6	O6
101545	6.39	0.24	B0III	B0III	B0III
102567	8.95	0.43	B1V	B1Vne	B1Vne
104901	7.43	0.21	B8Ib	B8,B9Iab,Ib	B8,B9Iab,Ib
105627	8.14	0.31	O9V	O9V	O9V
106068	5.93	0.33	B8Ia	B8Ia,Iab	B5Iab
109399	7.61	0.21	B0.5III	B0.5III	B0.5Ib
110432	5.24	0.48	B1V	B2nne	B2nne
112244	5.40	0.28	O9Ia	O9Ia,Iab	O9Ib
112784	8.25	0.30	O9.5III	O9.5III	O9.5III
113659	8.00	0.18	O8III	O8,O9III	O9IV
113904	5.50	0.21	O9.5Iab	O9.5,B0Iab	O9eWR
114737	7.96	0.45	O9V	O9III	O9V

Table 1 (continued)

HD	V	E_{B-V}	Sp/L (std)	Sp/L most recent	Sp/L most often
114886	6.82	0.29	B1II	B1,B2Ib,II	O9V
115455	7.95	0.465	O8V	O8	O8,B0IV
115842	6.00	0.51	B0.5Ia	B0.5Ia,Iab	B0Iab
116084	5.86	0.27	B2Ib	B2Ib	B2.5Ib
116852	8.47	0.16	O9III	O9III	O9III
117797	9.20	0.765	O8V	O8e	O8e
119159	6.00	0.09	B1II	B1,B2II	B2IV
120991	6.06	0.09	B2II	B2IIne	B2IIIe
122879	6.43	0.36	B0Ia	B0Ia	B0Iab
123056	8.12	0.37	O9.5III	B3III	O9.5III,IV
124314	6.64	0.50	O7V	O7	O7
124367	5.00	0.12	B3V	B5Vne	B3Ve
124471	5.76	0.11	B1III	B2III,IV	B2Ib
124979	8.50	0.405	O8V	O8	O8.5
125206	7.92	0.53	O9.5V	O9.5V	O9.5V
125241	8.23	0.76	O9V	O9,O9.5	O9Iab
125288	4.35	0.20	B5Ib	B5Ib,II	B5II
133518	6.30	0.15	B2V	B2IVpHe	B3III
135160	5.72	0.13	B1V	B1,B2Vn	B1Ve
135240	5.06	0.205	O8V	O8	O8.5V,III
135591	5.49	0.22	O7V	O8	O9Iab
138764	5.17	0.06	B5V	B7IV	B6,B7IV
140543	8.88	0.20	B0.5III	B0.5III	B0.5III
142301	5.88	0.11	B3V	B7IV	B7IV
142990	5.42	0.08	B3V	B3V	B3,B8V,B5
143275	2.31	0.14	B0V	B0V	B0V
144217	2.50	0.16	B1V	B1V	B0.5V
144470	3.95	0.18	B1V	B1V	B1V
144844	5.87	0.08	B9V	B9Vvar	B9Vvar
145502	4.00	0.29	B0.5V	B3V	B2V
146001	6.06	0.20	B6V	B8IV	B8IV
146706	7.55	0.21	B9V	B9V	B9V
147165	2.80	0.35	B1III	B1III	B1III
147196	7.06	0.31	B5V	B5V	B5V
147648	9.42	0.81	B8II	B8II	B8II
147701	8.36	0.71	B5III	B5III	B5V
147889	7.90	1.03	B2III	B2III,IV	B2V
147933	5.02	0.47	B2.5V	B2,B3V	B2V
148184	4.55	0.44	B1.5V	B2V	B2III,IV,Ve
148379	5.27	0.74	B2Iab	B2Iab	B2Ia
148579	7.32	0.33	B9V	B9V	B9V

Table 1 (continued)

HD	V	E_{B-V}	Sp/L (std)	Sp/L most recent	Sp/L most often
148605	4.78	0.08	B2V	B2V	B2V
148688	5.35	0.58	B1Ia	B1Ia	B1Ia
149038	4.89	0.32	B0Ia	B0Ia,Iab	B0Ia
149363	7.77	0.25	B0.5III	B0.5III	B0.5III
150168	5.63	0.18	B1Iab	B1Iab,Ib	B0.5Iab
150574	8.48	0.51	O8V	O8,O9	O9III
150898	5.57	0.16	B0Ia	B0Ia,Iab	B0Ib
151003	7.05	0.47	O9Iab	O9Iab,Ib	O8V,O9II
151346	7.90	0.44	B8II	B8II	B7V
151515	7.16	0.48	O6V	O6f	O7,B3II
151564	8.03	0.36	B0III	B0III	O9.5IV
151804	5.25	0.355	O8V	O8e	O8e,O9e
152003	6.99	0.63	O9Ia	O9Ia	B0Iab
152147	7.24	0.64	B0Ia	B0Ia	B0Iab
152217	8.45	0.33	B2II	B2II	B0III
152218	7.59	0.45	O9V	O9V	O9IV,V
152235	6.34	0.74	B1Ia	B1Ia	B1Ia
152236	4.71	0.65	B1Ia	B1,B2Ia	B1.5Ia
152245	8.39	0.31	B0Ib	B0Ib	B0III
152246	7.31	0.45	O9Ib	O9Ib	O9III
152247	7.16	0.44	O9.5Iab	O9.5Iab,Ib	O9II,III
152386	8.13	0.81	O5V	O5,O6fe	O5e
152405	7.23	0.36	B0Ia	B0Ia	O9.5Iab
152408	5.78	0.45	O8I	O8If	O8e
152424	6.32	0.64	B0Ib	B0Ib,II	O9Iab
152478	6.28	0.20	B2III	B2IIIne	B3Vnpe
152560	8.29	0.36	B0.5V	B2Vn	B0.5IV
152667	6.16	0.43	B2Iab	B2Iab,Ib	B0Iab
152723	7.29	0.44	O7V	O7,O8	O6var
153261	6.14	0.16	B0.5V	B1Vne	B2IVne
153426	7.47	0.425	O8V	B9II,III	O8.5,A0V
153919	6.53	0.55	O5V	O5f	O5f
154090	4.86	0.42	B2Iab	B2Iab	B1Iab
154368	6.13	0.76	O9.5Iab	O9.5Iab	O9.5Iab
155806	5.54	0.29	O9V	O9	O8Ve
155851	8.15	0.32	B1V	B4nnne	B0Vn
155889	6.57	0.15	B1Ib	B1,B2Ib,II	O9V
156201	7.89	0.86	B0.5Ia	B0.5Ia,Iab	B0.5Iab
156738	9.36	1.19	O7V	B7,B8Iab,Ib	O7,O8
157246	3.34	0.06	B1Ib	B1Ib	B1III
158186	7.00	0.29	O9.5V	B2,B3II	O9.5V,B0V,B3IV

Table 1 (continued)

HD	V	E_{B-V}	Sp/L (std)	Sp/L most recent	Sp/L most often
158864	8.18	0.19	B0.5Ib	B2Ib,IIpe	B2Ib,IIpe
159090	7.39	0.35	B0.5Ia	B0.5Ia,Iab	O9.5II,B0III
159176	5.70	0.34	O6V	O6V+O6V	O7var
159864	8.56	0.43	B1Ib	B1Ib	B0.5II
161056	6.32	0.59	B1.5V	B1.5V	B3V,B5V
161061	8.47	0.99	B0Ib	B0Ib,II	B2III
161291	8.84	0.92	B0.5Iab	B0.5Iab	B1Iab
161653	7.20	0.20	B0.5Iab	B0.5Iab	B0.5Iab
161961	7.78	0.44	B0.5III	B0.5III	B0.5III
162168	8.40	0.80	B0.5Iab	B0.5Iab	B0II
162978	6.17	0.29	O7V	O7,O8	O8IIIe
163522	8.46	0.19	B1Ia	B1Ia	B1Iab
163758	7.34	0.325	O5V	O5	O6e,O8e
163800	6.98	0.57	O7V	O7,O8	O7I,III
163892	7.44	0.36	B0.5Iab	B0.5I,B1Ib	O9III,IV
164284	4.68	0.19	B0.5V	B2Ve	B2Ve
164353	3.97	0.125	B4Ib	B5Ib	B5Ib
164402	5.71	0.22	B0Iab	B0Iab,Ib	B0Ib
164492	7.63	0.30	O5V	O6	O6
164794	5.98	0.33	O6V	O6	O5f
164816	7.09	0.26	B0V	B2IV,V	B0V
165016	7.32	0.13	B2Ib	B2Ib	B0III
165024	3.67	0.05	B2Ib	B2Ib	B0.5II
165516	6.26	0.29	B1Ib	B1,B2Ib	B0.5Ib
165921	7.30	0.46	O6III	O6III	O7
166546	7.24	0.23	B1Ib	B1Ib	O9.5III
166734	8.42	1.355	O7.5I	O7.5If	O8e
167128	5.36	0.135	B2.5V	B3II,III	B3V
167263	5.94	0.24	B0.5Ib	B0.5Ib,II	O9II
167264	5.33	0.25	B0.5Ia	B0.5Ia,Iab	B0Ia
167659	7.39	0.495	O8V	B8Ib	O8
167771	6.53	0.34	O8V	O8,O9	O8
167838	6.73	0.59	B3Ia	B3Ia	B5Ia
167971	7.46	1.04	O8V	O8,O9f	O8e
168076	8.17	0.76	O5V	O5	O5
168112	8.52	0.99	O5V	O5	O5
168137	8.95	0.55	B3Ib	B3Ib	B3Ib
168476	9.30	0.185	B2.5V	Bp	B5p
169034	8.12	1.34	B2Ia	B2Ia	B2Ia
169454	6.61	1.10	B1Ia	B1Ia	B1Ia
169582	8.70	0.85	O5.5V	O5.5f	O5e

Table 1 (continued)

HD	V	E_{B-V}	Sp/L (std)	Sp/L most recent	Sp/L most often
169727	9.28	1.10	O6V	B8Ia	O6
170235	6.50	0.30	B1.5V	B2Vnne	B2IV,IIIpe
170580	6.65	0.31	B2V	B2V	B2V
170938	7.87	1.04	B1Ia	B1Ia	B1Ia
171012	6.81	0.65	B0Ia	B0Ia,Iab	B0.5Ia
171589	8.25	0.58	O7V	O7	O7e
172252	9.42	0.88	B2V	B2Ve	B0Ve
172275	9.39	1.06	O6V	O6	O6
172488	7.62	0.74	B0.5II	B0.5II	B0.5V
172694	8.20	0.37	B2Ib	B2Ibe	B2Ibe
173438	8.20	0.97	B0.5Ia	B0.5Ia	B0.5Ia
175754	7.00	0.195	O8V	B2Ib,II	O8e
175876	6.94	0.19	O7V	O7,O8	O6
177291	8.65	0.53	B7V	B8Vnne	B8Vnne
178175	5.57	0.14	B2V	B2V	B2Ve
179406	5.33	0.31	B3V	B3V	B3IVvar
183143	6.80	1.21	B7Ia	B7Ia	B7Ia
183362	6.32	0.07	B2V	B3Ve	B2Vne
184915	4.96	0.22	B0.5III	B0.5III	B0.5III
184943	8.16	0.74	B9Ib	B9Ib	B9Ib
185268	6.43	0.06	B5V	B5V	B5V
185859	6.48	0.64	B0.5Ia	B0.5Ia	B0.5Ia
186660	6.46	0.22	B3III	B3III	B2V
186745	7.02	0.96	B8Ia	B8Ia	B8Ia
186841	7.89	1.04	B1Ia	B1Ia	B1Ia
188001	6.25	0.31	O8I	O8If	O8e
188209	5.65	0.09	O9.5Iab	O9.5Iab	O9.5Iab
190066	6.53	0.37	B1Iab	B1Iab	B1Iab
190429	6.63	0.435	O9.5V	O9.5Ve	O5e
190603	5.56	0.74	B1.5Ia	B1.5Ia+	B1.5Ia
190918	6.81	0.40	O9Ia	WN5.5	O9.5I+
190944	8.34	0.44	B1.5V	B1.5Vne	B1Vnne
191610	4.98	0.06	B2V	B2.5V	B3V
191612	7.84	0.505	O8V	O7.5III	O8
192639	7.13	0.615	O8V	O7.5III	O8e
193322	5.83	0.39	O8.5III	O8.5III	O8
193514	7.42	0.70	O7V	O7.5IIIf	O7e
194279	7.05	1.18	B2Ia	B2Ia	B1.5Ia
194839	7.50	1.15	B0.5Ia	B0.5Ia	B0.5Ia
195407	7.82	0.60	B0V	B0IVpe	B0IVpe

Table 1 (continued)

HD	V	E_{B-V}	Sp/L (std)	Sp/L most recent	Sp/L most often
198478	4.81	0.54	B2.5Ia	B2.5Ia	B3Ia
198931	8.76	0.85	B1V	B1Ve	B1Ve
199216	7.03	0.67	B1II	B1II	B1II
199356	7.19	0.43	B0V	B0IVp	B0p
199478	5.50	0.53	B8Ia	B8Ia	B8Ia
199579	5.96	0.34	O6.5III	O6.5III	O6
200120	4.61	0.20	B1V	B1.5Vnne	B1V
200775	7.37	0.58	B2V	B2Ve	B5e
200857	7.13	0.71	B3III	B3III	B3IIIvar
202850	4.26	0.13	B8Iab	B9Iab	B9Iab
202904	4.43	0.13	B0.5V	B2Vne	B2Ve
203064	5.02	0.245	O8V	O8V	O8
203532	6.36	0.29	B3V	B3IV,V	B3V,B5V
203938	7.08	0.70	B0.5V	B0.5IV	B0.5IV
204827	7.95	1.06	B0V	B0V	B0V
206165	4.78	0.42	B2Ib	B2Ib	B2Ib
206183	7.41	0.40	B0V	B0V	B0V
206267	5.70	0.52	O5V	O6	O6
206773	6.87	0.49	B0V	B0Vpe	B0Vpe
207198	5.94	0.60	O9Iab	O9Iab	O9II
208501	5.79	0.75	B8Ib	B8Ib	B8Ibvar
208682	5.86	0.18	B0.5V	B2.5Ve	B2IVe
209975	5.08	0.33	O9Iab	O9Iab	O9.5Ib
210839	5.02	0.50	O6V	O6e	O6e
211853	9.04	0.60	B0Iab	WN6.5	B0Iab,WN6
212044	6.99	0.29	B0.5V	B1Vnnpevar	B1Vevar
212076	5.00	0.07	B1.5V	B2IV,V	B2Ve
212593	4.57	0.11	B8Iab	B9Iab	B9Iab
214680	4.86	0.075	O8V	O8III	O9V
216411	7.18	0.80	B1Ia	B1Ia	B1Ia
216898	8.01	0.81	O9V	O9V	O8
217050	5.37	0.11	B1.5V	B4IIIpe	B2pe
217086	7.65	0.92	O6V	O6.5	O7V
217101	6.22	0.08	B1V	B2IV,V	B2IV,V
217543	6.52	0.075	B2.5V	B3Vp	B3Vn
218342	7.38	0.67	B0V	B0IV	B0IV
218537	6.26	0.16	B3V	B3V	B2V,B2.5V
219287	9.07	1.29	B0Ia	B0Ia	B0Ia
220116	8.69	0.83	B0.5V	B0.5Ve	B1V
223924	8.24	0.24	B1.5V	B1V,B2V	B1V
224599	9.59	0.66	B0.5V	B0.5Ve	B1V

Table 1 (continued)

HD, BD	V	E_{B-V}	Sp/L (std)	Sp/L most recent	Sp/L most often
224905	8.48	0.37	B1V	B1Ve	B1V
225094	6.25	0.45	B3Ia	B3Ia	B3Ia
225146	8.59	0.6	B0Iab	B0Iab	B0Iab
225160	8.20	0.57	O8Iab	O8If	O8e
225985	9.08	0.33	B1V	B1Vpshe	B1Vpshe
226868	8.91	1.03	B0Ib	B0Ib	B0Ib
228712	8.69	1.34	B0.5Ia	B0.5Ia	B0.5Ia
228779	8.92	1.55	O9.5Ib	O9.5Ib	O9.5Ib
229033	8.77	0.91	B1II	B1II	B0II,III
236689	9.46	0.50	B1.5V	B1.5Vpe	B1.5Vpe
236923	9.68	0.63	B1V	B1V	B1V
249845	8.74	0.25	B2V	B2Vnn	B2Vnn
250028	8.96	0.47	B2V	B2Vnnpe	B2Vnnpe
254577	9.06	1.02	B0.5II	B0.6II,III	B0.5II,III
259597	8.64	0.34	B0III	B0IIInK	B0.5Vnne
262013	9.25	0.05	B5V	B5V	B5V
−14 5029	9.61	1.32	B1.5Ib	B1.5Ib	B1.5Ib
−12 5008	9.83	1.22	B0.5III	B0.5III	B0.5III
+40 4220	9.10	1.96	O7Ia	O7Ianpe	O7e
+40 4227	9.03	1.56	O6Ib	O6Ibnf	O6e
+41 4064	9.02	0.485	B2.5V	B3nnp	B3nnpshe
+54 490	9.52	0.34	B1V	B1V	B1V
+56 473	9.07	0.46	B0.5III	B0.5IIIn	B1II
+56 586	9.94	0.54	B1V	B1V	B1V
+56 624	9.65	0.51	B3III	B3IIIe	B3IIIe
+60 2522	8.70	0.74	O6.5III	O6.5IIIef	O7e
+61 40	9.54	0.70	B0Iab	B0Iab	B2Ib,II
+62 2210	8.42	1.16	B9Ia	B9Ia	B9Ia

Table 2. Ratios of consecutive color excesses $k_\lambda = E_{\lambda-V}/E_{B-V}$.

HD	k_U	s_U	k_{33}	s_{33}	k_{25}	s_{25}	k_{22}	s_{22}	k_{18}	s_{18}	k_{15}	s_{15}
108	1.79	0.16	2.05	0.18	4.21	0.37	6.80	0.60	5.07	0.45	5.53	0.70
1544	1.65	0.19	2.08	0.24	4.26	0.47	6.90	0.76	5.10	0.58	5.45	0.81
2083	1.42	0.24	1.65	0.26	3.68	0.57	6.20	0.97	3.76	0.59	3.69	0.78
2905	1.87	0.27	2.81	0.40	5.48	0.76	8.20	1.14	7.51	1.05	7.99	1.12
3901	2.53	1.22	3.52	1.68	6.68	3.16	9.59	4.53	8.02	3.79	7.60	1.93
4180	3.00	1.01	4.79	1.53	8.50	2.71	10.93	3.42	9.72	3.09	10.18	2.00
4841	1.62	0.11	1.96	0.14	4.14	0.27	6.76	0.42	4.78	0.31	5.03	0.57
6811	2.83	2.02	4.55	3.11	6.95	4.78	10.95	7.45	7.65	5.32	8.03	2.76
7252	1.63	0.22	1.94	0.25	4.19	0.53	7.04	0.89	4.53	0.57	4.77	0.79
7902	1.29	0.13	1.61	0.17	4.27	0.37	7.19	0.61	5.58	0.48	6.29	0.74
9311	1.92	0.23	2.05	0.26	4.22	0.49	7.40	0.83	4.71	0.55	5.01	0.78
10516	1.20	0.29	1.75	0.39	3.17	0.67	4.08	0.91	4.18	0.93	4.53	1.13
12867	1.71	0.19	1.95	0.23	4.20	0.45	7.06	0.75	4.97	0.53	5.55	0.78
13267	1.31	0.15	2.03	0.22	3.96	0.40	6.56	0.64	4.41	0.44	4.84	0.71
13900	1.74	0.19	2.04	0.24	4.39	0.48	7.25	0.78	5.03	0.58	5.36	0.80
13969	1.61	0.13	1.98	0.15	4.26	0.32	7.02	0.53	4.96	0.37	5.32	0.64
14092	1.76	0.16	2.09	0.19	4.41	0.39	7.29	0.64	5.17	0.46	5.77	0.72
14134	1.85	0.16	1.17	0.12	3.32	0.28	5.70	0.43	3.76	0.38	4.17	0.62
14250	1.73	0.13	2.25	0.22	4.48	0.37	7.48	0.58	5.17	0.40	5.39	0.65
14322	2.32	0.24	2.75	0.28	5.82	0.57	8.11	0.77	6.88	0.73	7.93	0.94
14357	1.96	0.19	1.42	0.19	3.82	0.37	6.46	0.61	4.87	0.45	5.36	0.73
14422	1.44	0.09	1.94	0.13	3.98	0.23	6.35	0.36	4.68	0.29	5.13	0.55
14542	1.60	0.13	1.92	0.15	4.31	0.31	6.99	0.49	5.50	0.40	5.98	0.69
14605	1.34	0.13	1.82	0.19	3.70	0.33	6.07	0.53	4.24	0.41	4.63	0.90
14818	1.76	0.18	2.18	0.23	4.65	0.44	7.37	0.66	5.96	0.64	6.28	0.86
14947	1.78	0.10	2.21	0.12	4.48	0.25	7.19	0.40	5.36	0.30	5.77	0.56
14956	1.73	0.09	2.11	0.12	4.46	0.22	6.86	0.32	5.83	0.33	6.39	0.59
15497	1.65	0.09	2.02	0.11	4.38	0.22	7.05	0.35	5.76	0.29	6.37	0.57
16429	1.85	0.11	2.16	0.12	4.44	0.23	6.84	0.34	5.16	0.27	5.43	0.52
16779	1.74	0.09	2.08	0.12	4.56	0.25	7.65	0.47	5.42	0.37	5.86	0.58
16908	2.25	2.33	3.50	3.52	6.85	6.87	9.43	9.48	7.60	7.64	8.45	3.18
17114	1.67	0.10	2.04	0.12	4.20	0.23	6.93	0.40	4.91	0.28	5.28	0.54
17145	1.61	0.10	1.87	0.12	4.08	0.25	7.14	0.59	5.79	0.39	6.30	0.70
17603	1.74	0.10	2.09	0.11	4.38	0.21	7.12	0.33	5.14	0.25	5.86	0.52
18352	1.67	0.16	1.99	0.18	4.27	0.38	7.15	0.64	4.65	0.42	4.75	0.66
19356	2.00	1.13	2.95	1.56	5.04	2.67	4.98	2.73	5.29	2.88	5.51	2.01
19820	1.80	0.10	2.19	0.12	4.47	0.24	7.03	0.38	4.97	0.27	5.18	0.54
21071	1.83	1.41	1.97	1.50	3.97	2.91	6.82	4.80	3.87	2.99	3.78	2.22
21212	1.49	0.08	1.88	0.10	4.07	0.21	6.54	0.33	4.73	0.25	5.05	0.51
21291	1.63	0.18	1.79	0.20	4.58	0.45	6.70	0.67	5.53	0.57	6.03	0.86

Table 2 (continued)

HD	k_U	s_U	k_{33}	s_{33}	k_{25}	s_{25}	k_{22}	s_{22}	k_{18}	s_{18}	k_{15}	s_{15}
21551	2.56	1.23	3.36	1.56	5.82	2.70	8.43	3.88	6.59	3.10	6.90	2.02
23288	2.00	1.01	2.91	1.37	5.36	2.51	8.17	3.77	4.90	2.40	4.62	1.75
23324	2.50	1.81	3.43	2.39	6.05	4.20	8.68	5.98	6.62	4.66	6.92	2.63
23480	2.25	1.20	4.13	2.08	6.93	3.50	9.66	4.87	8.08	4.07	8.79	2.19
23753	2.00	2.26	2.33	2.55	4.83	5.23	8.15	8.46	5.12	5.70	3.55	3.14
24431	1.71	0.11	2.20	0.14	4.50	0.29	7.14	0.47	5.08	0.33	5.56	0.60
24912	1.35	0.23	1.95	0.32	4.17	0.65	6.53	1.03	3.81	0.63	3.64	0.83
25204	2.47	1.36	2.89	1.57	5.11	2.74	6.75	3.62	6.52	3.50	6.12	1.86
25348	1.66	0.16	2.05	0.20	4.39	0.40	6.94	0.64	5.23	0.48	5.63	0.73
26571	1.41	0.31	1.54	0.30	3.53	0.64	6.23	0.99	4.06	0.75	4.64	0.94
29866	1.29	0.48	2.41	0.75	5.06	1.56	9.70	2.85	4.58	1.49	3.66	1.25
30614	1.77	0.28	1.84	0.26	3.91	0.52	6.06	0.77	5.11	0.67	5.75	0.90
32343	1.32	0.47	3.33	1.08	5.18	1.67	7.00	2.25	6.55	2.11	6.16	1.43
34078	1.65	0.15	2.28	0.20	4.32	0.36	6.39	0.55	4.52	0.40	4.46	0.65
34748	1.36	0.54	1.68	0.64	3.59	1.32	6.26	2.30	3.76	1.40	4.18	1.27
34989	1.50	0.65	1.86	0.76	3.46	1.40	6.01	2.44	2.43	1.02	1.69	0.97
35079	2.00	0.56	2.28	0.62	4.43	1.19	6.82	1.84	4.86	1.31	4.86	1.19
35149	3.00	1.75	3.07	1.78	6.73	3.89	9.07	5.28	7.93	4.64	9.26	2.71
35215	1.90	0.26	2.31	0.31	4.49	0.59	7.51	0.98	4.21	0.55	3.82	0.72
35411	2.40	1.02	2.56	1.07	4.27	1.76	5.47	2.33	4.88	2.11	5.86	1.95
35502	1.27	0.60	1.40	0.59	3.33	1.30	5.53	2.09	3.93	1.50	4.42	1.38
35653	1.69	0.20	2.21	0.25	4.47	0.51	7.24	0.83	5.45	0.64	5.80	0.85
35673	3.29	1.97	4.09	2.41	6.17	3.71	7.67	4.57	6.80	4.14	7.10	2.47
35910	2.00	1.81	2.42	2.04	4.14	3.47	6.12	5.05	4.72	3.91	5.02	2.35
36013	2.00	2.09	2.53	2.55	5.03	5.06	7.00	7.08	6.23	6.28	7.00	2.94
36351	2.00	2.79	2.60	3.55	5.03	6.79	7.47	10.05	3.53	5.01	1.97	2.86
36629	2.40	0.40	2.52	0.41	4.97	0.81	7.10	1.17	5.23	0.88	5.12	0.99
36646	1.93	1.08	1.97	1.09	4.80	2.58	7.57	4.06	6.16	3.31	5.61	1.78
36695	2.67	1.82	3.33	2.25	5.07	3.45	5.70	3.98	5.10	3.60	5.68	2.57
36822	2.13	1.11	2.95	1.53	4.98	2.52	6.38	3.28	5.00	2.61	4.45	1.87
37017	1.88	0.99	2.84	1.45	4.81	2.42	5.78	2.91	5.03	2.55	4.59	1.57
37040	3.64	1.34	3.93	1.45	6.99	2.57	7.49	2.80	7.61	2.84	7.85	1.92
37061	2.02	0.18	1.24	0.12	2.23	0.21	3.38	0.33	2.00	0.23	1.93	0.46
37356	1.78	0.42	1.95	0.45	3.77	0.86	6.03	1.36	3.55	0.84	3.14	0.92
37903	1.69	0.22	1.37	0.19	2.86	0.37	4.52	0.58	2.81	0.39	2.61	0.61
38131	1.69	0.16	2.06	0.19	4.30	0.39	7.24	0.66	4.92	0.46	5.30	0.72
38191	1.68	0.19	1.94	0.22	4.31	0.47	6.73	0.74	4.76	0.52	4.94	0.74
38708	3.00	0.82	1.73	0.47	5.03	1.35	9.45	2.53	6.33	1.70	6.91	1.40
39680	1.67	0.20	1.44	0.18	3.67	0.44	6.04	0.73	4.96	0.59	5.38	0.81
39746	1.90	0.20	2.35	0.25	4.83	0.49	7.66	0.79	6.00	0.63	6.31	0.85
40111	1.83	0.67	2.84	1.01	5.71	1.97	8.68	3.01	7.23	2.53	7.48	1.92

Table 2 (continued)

HD	k_U	s_U	k_{33}	s_{33}	k_{25}	s_{25}	k_{22}	s_{22}	k_{18}	s_{18}	k_{15}	s_{15}
41117	1.57	0.17	1.87	0.22	4.19	0.42	6.69	0.63	5.37	0.62	5.71	0.85
41335	1.53	0.44	2.22	0.60	3.87	1.04	4.77	1.30	5.18	1.40	5.45	1.25
41398	1.58	0.16	1.99	0.21	4.26	0.39	6.74	0.58	5.45	0.58	5.92	0.82
41690	2.03	0.25	2.36	0.30	4.83	0.56	7.71	0.88	5.57	0.63	6.15	0.88
42087	1.79	0.25	1.97	0.29	4.24	0.55	6.75	0.82	5.17	0.79	5.69	1.01
42088	1.72	0.20	2.08	0.25	4.25	0.50	7.05	0.83	4.94	0.58	5.32	0.80
42259	1.69	0.12	2.13	0.14	4.22	0.27	6.66	0.44	5.00	0.34	5.29	0.61
43384	1.85	0.16	2.20	0.18	4.71	0.36	7.28	0.53	5.51	0.47	6.10	0.72
43818	1.80	0.15	2.20	0.19	4.56	0.38	7.17	0.60	5.68	0.48	6.25	0.75
44139	1.79	0.14	2.09	0.16	4.35	0.34	6.93	0.54	5.51	0.44	6.29	0.72
44458	1.64	0.28	1.85	0.30	3.98	0.64	5.34	0.87	5.54	0.90	6.07	1.01
44965	2.00	0.23	2.32	0.25	4.57	0.49	7.10	0.72	5.07	0.62	5.74	0.86
45314	1.43	0.14	2.05	0.20	3.51	0.35	5.08	0.52	4.07	0.40	4.70	0.68
45626	1.33	0.42	3.35	0.91	6.39	1.73	10.63	2.85	5.93	1.61	6.22	1.33
45910	1.62	0.13	1.66	0.13	3.07	0.24	4.28	0.33	4.27	0.35	4.26	0.59
46150	1.84	0.18	2.07	0.21	4.46	0.44	7.44	0.73	5.25	0.52	5.50	0.74
46202	1.72	0.16	1.83	0.18	3.92	0.37	5.98	0.56	4.70	0.44	5.51	0.71
46380	1.35	0.10	1.57	0.12	3.65	0.26	6.21	0.44	4.07	0.29	4.17	0.54
46484	1.56	0.11	1.76	0.12	3.89	0.27	6.49	0.45	4.37	0.30	4.62	0.57
46485	1.74	0.12	2.15	0.15	4.34	0.30	7.05	0.49	4.93	0.34	5.30	0.60
46559	1.87	0.15	2.42	0.19	4.93	0.39	7.57	0.67	6.23	0.47	6.78	0.76
46573	1.75	0.12	2.18	0.15	4.49	0.30	7.07	0.48	5.46	0.36	6.09	0.63
46660	1.61	0.13	1.88	0.14	4.08	0.31	6.71	0.50	4.31	0.32	4.29	0.57
46711	1.88	0.09	2.31	0.11	4.93	0.27	7.13	0.53	5.36	0.32	5.59	0.56
46867	1.84	0.18	0.89	0.11	2.94	0.28	4.20	0.41	3.54	0.35	3.80	0.62
46883	1.77	0.12	2.08	0.13	4.29	0.27	6.76	0.43	5.30	0.34	5.57	0.60
46966	1.91	0.38	2.51	0.50	4.90	0.98	7.92	1.58	5.75	1.15	6.73	1.20
47032	1.72	0.11	2.15	0.14	4.34	0.26	7.05	0.43	4.73	0.29	4.94	0.56
47129	1.62	0.24	2.08	0.31	4.46	0.62	6.90	0.97	5.15	0.74	5.53	0.93
47240	1.91	0.25	2.34	0.30	4.76	0.59	7.37	0.92	6.28	0.79	6.72	0.97
47432	1.87	0.26	2.25	0.28	4.62	0.55	7.31	0.84	5.94	0.70	6.44	0.90
48099	1.92	0.32	2.33	0.39	5.02	0.84	8.32	1.39	5.90	0.99	6.22	1.05
48279	1.75	0.16	1.87	0.18	4.11	0.39	6.50	0.61	4.93	0.46	5.47	0.72
48434	1.81	0.36	2.54	0.51	5.01	0.97	7.10	1.38	6.48	1.27	7.21	1.25
49585	1.85	0.23	2.54	0.31	4.86	0.58	7.45	0.90	5.57	0.69	6.00	0.89
49787	1.78	0.42	2.18	0.49	3.96	0.89	6.48	1.46	4.01	0.91	3.91	0.98
50064	1.26	0.07	1.49	0.10	3.99	0.25	6.70	0.37	4.94	0.34	5.44	0.55
50658	1.75	0.97	4.64	2.34	8.03	4.05	10.78	5.43	9.93	5.00	11.29	2.47
50820	1.57	0.09	1.59	0.09	2.00	0.11	2.35	0.13	2.35	0.13	2.43	0.36
52266	1.62	0.35	2.63	0.52	5.06	0.98	8.07	1.58	6.16	1.23	6.99	1.29
52382	1.84	0.21	2.31	0.27	4.84	0.54	7.48	0.83	6.03	0.69	6.18	0.88

Table 2 (continued)

HD	k_U	s_U	k_{33}	s_{33}	k_{25}	s_{25}	k_{22}	s_{22}	k_{18}	s_{18}	k_{15}	s_{15}
53367	1.64	0.10	2.00	0.13	4.00	0.24	5.73	0.35	4.44	0.28	4.40	0.53
53755	1.63	0.39	2.36	0.52	4.47	0.97	6.41	1.41	5.83	1.30	6.93	1.36
53974	1.82	0.28	2.34	0.37	4.72	0.71	7.13	1.08	5.58	0.86	5.81	0.99
53975	1.81	0.43	2.47	0.58	4.24	0.96	6.87	1.51	4.88	1.11	5.68	1.19
54309	1.80	0.76	3.62	1.46	5.11	2.06	5.72	2.33	5.98	2.41	6.25	1.66
54439	1.64	0.25	1.93	0.28	3.96	0.57	6.69	0.97	4.16	0.61	4.15	0.79
54662	1.65	0.27	2.11	0.35	4.50	0.70	7.27	1.14	4.43	0.72	4.35	0.89
55606	1.79	0.40	2.39	0.51	4.25	0.90	5.68	1.22	5.57	1.19	5.76	1.13
55879	3.17	2.35	4.10	2.86	8.08	5.55	12.82	8.71	11.53	7.87	11.70	3.44
56847	2.16	0.31	2.24	0.33	4.43	0.62	6.54	0.88	3.92	0.70	4.18	0.92
57060	1.93	0.58	2.79	0.84	4.68	1.41	6.66	2.04	6.18	1.84	7.16	1.55
57061	2.40	1.14	2.75	1.21	5.86	2.48	7.95	3.34	7.62	3.21	7.54	2.12
57150	1.44	0.70	2.43	1.13	4.87	2.18	6.60	2.96	7.12	3.19	7.77	1.90
57682	1.44	0.70	2.67	1.24	4.22	1.99	6.50	3.10	4.90	2.32	6.69	1.94
58343	2.50	0.74	3.39	0.98	5.99	1.72	8.68	2.49	6.55	1.89	6.76	1.41
58978	1.25	0.75	2.23	1.23	3.63	1.97	3.31	2.08	4.58	2.56	3.61	2.11
59094	1.25	0.15	1.35	0.18	3.32	0.38	5.71	0.65	4.33	0.49	4.76	0.74
60325	3.00	1.16	3.78	1.48	7.13	2.69	9.20	3.41	7.20	3.04	7.25	2.44
60479	1.75	0.16	2.17	0.18	4.53	0.35	7.21	0.54	5.81	0.44	6.51	0.71
60606	1.50	0.54	2.53	0.87	4.57	1.54	6.21	2.09	6.68	2.24	7.41	1.60
60855	2.00	0.93	2.16	0.99	5.22	2.33	8.84	3.95	6.28	2.81	6.72	1.76
61827	2.07	0.13	2.49	0.14	5.21	0.28	7.59	0.40	6.74	0.36	7.16	0.61
63462	1.11	0.31	1.78	0.43	2.82	0.67	2.99	0.80	3.71	0.94	4.29	1.18
63922	2.00	1.67	2.96	2.45	5.16	4.18	6.02	4.97	5.18	4.32	4.34	2.60
64760	2.38	1.23	3.41	1.78	5.61	2.91	5.73	3.13	10.24	5.24	11.76	2.92
65875	1.67	0.59	2.12	0.73	4.19	1.42	5.43	1.84	6.04	2.06	6.31	1.57
68450	1.81	0.36	2.26	0.46	4.61	0.89	7.06	1.38	5.15	1.02	5.50	1.11
68980	1.25	0.46	2.33	0.80	4.28	1.47	4.98	1.76	6.06	2.10	6.87	1.73
69106	2.14	1.31	2.33	1.46	4.86	2.91	8.90	5.28	3.06	2.18	3.26	2.31
69464	1.90	0.14	2.17	0.16	4.27	0.31	6.90	0.50	5.06	0.36	5.44	0.62
70930	2.67	1.82	2.90	2.00	4.73	3.23	5.18	3.60	5.33	3.86	5.45	2.54
71304	1.92	0.10	2.26	0.13	4.51	0.24	6.84	0.37	5.52	0.30	6.00	0.57
73882	2.00	0.13	2.37	0.16	4.10	0.27	5.52	0.36	4.88	0.32	5.12	0.59
74194	1.82	0.16	2.17	0.19	4.25	0.37	6.78	0.59	4.87	0.42	5.42	0.69
75211	1.87	0.14	2.17	0.15	4.71	0.30	7.51	0.46	5.35	0.34	5.29	0.58
75222	1.93	0.14	2.26	0.19	4.80	0.34	7.39	0.52	5.90	0.42	6.59	0.70
75759	1.94	0.48	2.55	0.63	4.36	1.09	7.08	1.77	4.71	1.18	5.28	1.21
76534	1.61	0.19	2.17	0.25	4.11	0.46	6.19	0.69	4.56	0.51	4.75	0.73
76838	2.16	0.37	2.08	0.36	4.50	0.74	6.68	1.12	4.76	0.83	5.02	1.02
76868	1.21	0.16	1.30	0.17	1.80	0.26	2.52	0.35	2.69	0.38	2.80	0.62
76968	1.77	0.24	2.09	0.25	4.44	0.50	6.95	0.76	5.49	0.62	5.71	0.83

Table 2 (continued)

HD	k_U	s_U	k_{33}	s_{33}	k_{25}	s_{25}	k_{22}	s_{22}	k_{18}	s_{18}	k_{15}	s_{15}
77581	1.82	0.11	2.25	0.14	4.60	0.27	6.91	0.41	5.85	0.35	6.33	0.62
78785	1.78	0.12	2.22	0.16	4.53	0.30	6.64	0.41	5.51	0.42	5.93	0.67
79186	2.00	0.28	2.12	0.29	4.84	0.63	7.32	0.91	5.57	0.81	5.91	0.99
83183	3.13	1.62	3.71	1.93	6.10	3.12	8.86	4.48	5.59	2.90	4.94	1.87
84567	1.53	0.46	1.95	0.56	3.49	0.97	5.02	1.44	5.69	1.61	7.35	1.61
88661	1.20	0.36	1.40	0.39	3.11	0.84	4.33	1.19	4.35	1.18	4.68	1.17
89137	1.33	0.76	1.66	1.00	4.34	2.13	7.43	3.40	3.60	2.48	3.64	2.56
93205			0.49	0.11	2.58	0.34	4.93	0.63	3.34	0.43	3.50	0.67
93222	1.77	0.21	1.63	0.21	3.66	0.45	6.01	0.75	4.34	0.54	4.71	0.77
93250	1.70	0.16	1.77	0.17	3.72	0.35	5.90	0.57	4.35	0.41	4.60	0.66
93540	2.60	2.25	2.76	2.30	4.52	3.76	5.40	4.49	5.04	4.16	4.90	2.32
93843	1.82	0.28	2.33	0.36	4.44	0.70	6.88	1.09	5.34	0.83	5.59	0.96
94963	2.02	0.41	2.52	0.52	4.71	0.97	7.24	1.50	5.90	1.20	6.65	1.21
96042	1.39	0.15	1.74	0.17	3.50	0.35	5.64	0.56	4.14	0.41	4.63	0.68
96622	1.46	0.17	2.02	0.24	4.31	0.46	6.90	0.74	5.12	0.56	5.78	0.83
96917	1.82	0.21	2.35	0.27	4.16	0.49	6.30	0.74	5.70	0.65	7.23	0.92
97253	1.83	0.16	2.00	0.18	4.39	0.39	7.08	0.63	5.02	0.44	5.25	0.68
97319	1.89	0.16	2.30	0.19	4.36	0.37	6.70	0.57	5.25	0.44	5.97	0.71
97434	1.62	0.15	1.63	0.16	3.60	0.35	5.97	0.58	3.99	0.39	4.59	0.66
97670	2.67	1.22	3.92	1.76	6.48	2.90	8.00	3.59	9.52	4.26	10.39	2.25
97848	1.86	0.36	2.03	0.40	4.04	0.75	6.40	1.20	4.45	0.86	4.81	1.02
97966	1.94	0.24	1.62	0.24	4.09	0.49	6.88	0.80	4.85	0.58	5.13	0.80
99160	1.87	0.22	2.06	0.22	4.29	0.42	6.93	0.66	4.96	0.49	5.08	0.72
100099	1.82	0.20	2.24	0.25	4.16	0.47	6.46	0.73	4.61	0.52	5.17	0.77
101008	1.79	0.32	1.97	0.36	3.79	0.68	6.00	1.08	4.18	0.76	4.83	0.96
101131	2.09	0.26	2.01	0.28	4.20	0.56	6.72	0.88	4.91	0.65	5.25	0.84
101190	1.88	0.24	1.99	0.26	4.06	0.53	6.52	0.85	4.78	0.62	5.28	0.84
101205	1.78	0.27	7.45	0.88	9.36	1.11	11.65	1.38	9.99	1.19	10.61	1.16
101298	1.95	0.21	1.89	0.21	4.11	0.45	6.59	0.72	4.84	0.53	5.03	0.75
101545	1.75	0.31	2.09	0.37	4.36	0.74	6.58	1.13	5.15	0.90	5.73	1.05
102567	1.21	0.13	1.50	0.15	2.95	0.28	4.70	0.45	3.19	0.31	3.34	0.57
104901	2.71	0.57	1.99	0.48	5.09	1.08	7.56	1.61	5.60	1.26	6.05	1.47
105627	1.77	0.24	2.26	0.31	4.12	0.57	6.63	0.91	4.68	0.65	5.56	0.89
106068	1.42	0.23	1.76	0.28	4.27	0.60	6.31	0.89	5.35	0.78	5.76	1.05
109399	1.91	0.38	2.36	0.47	4.38	0.85	6.67	1.30	5.62	1.11	5.91	1.15
110432	1.29	0.12	1.58	0.14	3.20	0.27	4.77	0.41	3.54	0.30	3.75	0.57
112244	1.79	0.34	2.00	0.34	4.61	0.72	7.43	1.12	5.31	0.84	5.41	0.98
112784	2.03	0.28	2.49	0.35	4.61	0.62	7.19	0.98	4.96	0.69	4.99	0.87
113659			3.46	0.79	6.30	1.41	10.08	2.27	7.23	1.64	8.86	1.49
113904	2.10	0.50	2.54	0.54	4.88	1.01	7.60	1.52	6.05	1.25	5.65	1.19
114737	1.78	0.17	1.84	0.18	3.83	0.37	6.27	0.60	4.13	0.40	4.59	0.66

Table 2 (continued)

HD	k_U	s_U	k_{33}	s_{33}	k_{25}	s_{25}	k_{22}	s_{22}	k_{18}	s_{18}	k_{15}	s_{15}
114886	1.76	0.27	2.07	0.32	4.13	0.61	7.00	1.03	3.61	0.59	3.65	0.84
115455	1.84	0.17	2.29	0.21	4.41	0.40	7.09	0.65	4.89	0.45	5.41	0.70
115842	1.84	0.16	2.16	0.19	4.43	0.37	6.83	0.57	5.41	0.46	5.81	0.72
116084	1.70	0.30	2.42	0.42	4.99	0.80	7.14	1.09	6.94	1.21	7.54	1.29
116852	1.75	0.46	2.30	0.61	3.80	0.97	5.55	1.44	4.44	1.17	4.72	1.23
117797	1.75	0.10	1.81	0.10	3.83	0.22	6.04	0.34	4.38	0.25	5.00	0.52
119159			2.80	1.33	5.88	2.70	9.19	4.23	5.38	2.59	5.32	2.11
120991	1.11	0.68	3.20	1.57	4.84	2.33	5.30	2.48	3.76	2.52	3.68	2.57
122879	1.94	0.23	2.09	0.26	4.21	0.50	6.57	0.78	5.11	0.62	5.55	0.86
123056	2.03	0.23	2.52	0.29	4.85	0.53	7.52	0.83	5.02	0.57	4.97	0.77
124314			2.11	0.18	4.26	0.36	7.07	0.60	4.60	0.39	4.90	0.65
124367	1.25	0.46	1.75	0.60	3.56	1.20	5.71	1.93	5.34	1.80	5.62	1.43
124471	3.18	1.18	3.32	1.24	5.96	2.20	8.79	3.24	4.99	1.99	3.77	1.49
124979	1.89	0.20	2.08	0.22	4.00	0.42	6.44	0.68	5.02	0.53	6.17	0.81
125206	1.62	0.14	2.05	0.17	4.00	0.31	6.39	0.51	4.47	0.37	4.75	0.64
125241	1.74	0.10	2.05	0.12	4.06	0.23	6.58	0.37	4.79	0.27	5.43	0.55
125288	2.30	0.49	2.85	0.61	5.05	1.04	7.49	1.52	4.66	0.98	4.39	1.02
133518	1.47	0.42	2.09	0.58	3.83	1.03	6.08	1.63	3.87	1.05	3.75	1.02
135160	1.23	0.42	1.55	0.49	3.20	1.00	6.42	2.00	2.15	0.70	1.27	0.74
135240	1.93	0.39	2.57	0.53	4.43	0.92	7.12	1.48	4.70	0.99	5.18	1.08
135591	2.09	0.40	2.00	0.39	3.89	0.76	6.41	1.25	4.48	0.88	4.90	1.01
138764	3.00	2.12	3.05	2.10	5.80	3.96	7.85	5.33	6.48	4.40	6.72	2.35
140543	1.60	0.34	2.05	0.44	4.27	0.87	6.86	1.40	5.55	1.15	6.17	1.20
142301	1.64	0.64	2.17	0.80	6.10	2.23	9.21	3.37	7.67	2.80	8.59	1.83
142990	1.25	0.70	1.64	0.84	5.14	2.58	8.65	4.36	6.21	3.13	7.58	2.05
143275	1.71	0.54	2.55	0.76	4.48	1.31	5.07	1.56	4.75	1.47	5.32	1.50
144217	1.56	0.42	1.80	0.46	3.64	0.92	6.40	1.62	2.95	0.76	2.71	0.89
144470	1.67	0.39	1.99	0.45	4.11	0.92	7.02	1.58	3.60	0.82	3.19	0.89
144844	1.50	0.92	1.61	0.96	4.15	2.31	6.55	3.47	4.25	2.47	3.51	1.83
145502	2.28	0.33	2.38	0.34	4.45	0.63	6.41	0.92	4.26	0.64	4.02	0.82
146001	1.70	0.38	1.90	0.40	3.84	0.79	5.77	1.18	3.63	0.75	3.44	0.87
146706	2.29	0.48	2.84	0.58	4.77	0.99	7.11	1.42	4.74	1.02	4.43	1.04
147165	1.80	0.22	2.25	0.27	3.93	0.46	5.93	0.70	3.56	0.48	3.12	0.66
147196	2.39	0.34	3.16	0.42	5.33	0.71	7.45	0.98	5.91	0.78	5.94	0.90
147648	1.89	0.11	2.31	0.16	3.96	0.30	6.00	0.49	3.21	0.28	2.31	0.44
147701	1.65	0.12	1.93	0.13	3.50	0.24	5.12	0.31	3.80	0.26	3.75	0.49
147889	1.03	0.05	1.68	0.07	1.85	0.08	3.67	0.15	5.80	0.23	3.30	0.36
147933	1.83	0.16	1.07	0.10	2.69	0.23	4.55	0.39	2.31	0.21	1.86	0.40
148184	1.16	0.12	1.34	0.16	3.26	0.31	5.30	0.49	3.44	0.34	3.20	0.57
148379	1.70	0.11	2.12	0.14	4.32	0.26	6.65	0.37	5.36	0.37	5.57	0.61
148579	2.03	0.28	2.48	0.33	4.06	0.55	5.78	0.75	3.63	0.54	3.24	0.70

Table 2 (continued)

HD	k_U	s_U	k_{33}	s_{33}	k_{25}	s_{25}	k_{22}	s_{22}	k_{18}	s_{18}	k_{15}	s_{15}
148605	1.88	0.99	2.28	1.17	4.04	2.04	6.31	3.18	3.45	1.77	3.06	1.30
148688	1.67	0.13	1.92	0.15	3.97	0.29	6.32	0.47	5.08	0.38	5.14	0.64
149038	1.97	0.26	2.19	0.30	4.42	0.58	6.56	0.88	5.26	0.72	5.67	0.94
149363	1.64	0.28	1.98	0.34	4.10	0.67	6.82	1.12	4.67	0.79	4.77	0.95
150168	2.22	0.53	2.58	0.62	5.24	1.21	7.86	1.83	6.32	1.49	6.49	1.40
150574	1.73	0.14	2.13	0.18	4.06	0.34	6.54	0.55	5.08	0.42	6.00	0.70
150898	2.44	0.63	2.58	0.70	4.98	1.30	6.81	1.81	6.94	1.83	7.80	1.62
151003	1.77	0.20	2.02	0.20	4.24	0.40	6.82	0.62	4.88	0.47	5.02	0.70
151346	1.82	0.20	2.13	0.24	4.09	0.44	5.84	0.63	4.10	0.49	3.82	0.76
151515	1.85	0.16	2.12	0.19	4.22	0.37	6.87	0.61	4.88	0.43	5.19	0.68
151564	1.89	0.22	2.19	0.26	4.26	0.48	6.66	0.76	4.66	0.55	4.76	0.77
151804	1.70	0.20	2.15	0.26	4.19	0.50	6.59	0.80	4.95	0.59	5.97	0.85
152003	1.86	0.15	2.23	0.16	4.54	0.32	6.76	0.46	5.65	0.39	6.10	0.65
152147	1.81	0.12	2.17	0.15	4.33	0.29	6.61	0.44	5.28	0.36	5.73	0.63
152217	1.73	0.25	1.90	0.30	3.99	0.54	6.12	0.77	3.93	0.70	4.10	0.93
152218	1.76	0.17	2.36	0.22	4.31	0.41	6.41	0.61	5.31	0.50	6.32	0.77
152235	1.78	0.11	2.13	0.13	4.27	0.25	6.67	0.39	5.40	0.32	5.73	0.58
152236	1.66	0.11	2.15	0.15	4.33	0.29	6.76	0.45	5.66	0.38	5.90	0.64
152245	1.97	0.27	2.42	0.34	4.66	0.63	7.24	0.99	5.41	0.76	5.66	0.95
152246	1.76	0.21	2.09	0.22	4.34	0.43	6.81	0.65	5.01	0.50	5.14	0.73
152247	1.93	0.22	2.29	0.24	4.49	0.45	6.94	0.67	5.62	0.56	6.12	0.79
152386	1.88	0.10	2.35	0.13	4.44	0.23	6.75	0.36	5.37	0.28	5.87	0.55
152405	1.92	0.22	2.14	0.26	4.25	0.50	6.59	0.78	5.23	0.63	5.81	0.88
152408	1.73	0.21	2.26	0.23	4.91	0.47	7.96	0.74	5.43	0.53	5.66	0.76
152424	1.83	0.12	2.12	0.15	4.33	0.29	6.76	0.45	5.07	0.35	5.50	0.62
152478	1.90	0.40	2.53	0.52	4.78	0.97	7.22	1.46	4.88	1.00	4.64	1.01
152560	1.64	0.19	6.07	0.69	8.31	0.93	10.88	1.23	8.83	1.00	9.06	1.04
152667	1.51	0.17	1.93	0.23	3.76	0.40	5.69	0.55	4.57	0.58	4.97	0.82
152723	1.75	0.17	1.64	0.17	3.52	0.35	5.83	0.58	4.01	0.40	4.50	0.67
153261	1.25	0.35	1.98	0.53	3.99	1.04	5.60	1.47	5.03	1.34	5.68	1.35
153426	1.68	0.17	2.13	0.21	4.10	0.41	6.63	0.67	4.63	0.47	5.16	0.72
153919	1.84	0.14	2.21	0.17	4.34	0.33	6.88	0.53	5.03	0.39	5.41	0.64
154090	1.60	0.18	1.95	0.24	4.12	0.44	6.16	0.61	5.16	0.64	5.54	0.87
154368	1.78	0.12	2.10	0.13	4.27	0.25	6.42	0.36	5.24	0.31	5.70	0.57
155806	1.31	0.20	1.78	0.27	3.34	0.51	5.18	0.79	3.55	0.55	4.22	0.81
155851	1.41	0.19	1.94	0.25	4.16	0.53	6.93	0.88	4.67	0.59	4.38	0.76
155889	1.60	0.48	1.93	0.58	4.43	1.25	7.85	2.20	2.56	0.91	1.91	1.12
156201	1.78	0.09	2.22	0.11	4.40	0.22	6.73	0.34	5.33	0.27	5.53	0.53
156738	1.84	0.07	2.15	0.08	4.20	0.15	6.41	0.25	4.90	0.18	5.26	0.43
157246	2.17	1.55	3.15	2.21	6.48	4.44	8.93	6.19	10.20	6.97	10.32	3.41
158186	1.59	0.25	2.06	0.30	3.90	0.56	6.21	0.90	4.14	0.64	4.37	0.88

Table 2 (continued)

HD	k_U	s_U	k_{33}	s_{33}	k_{25}	s_{25}	k_{22}	s_{22}	k_{18}	s_{18}	k_{15}	s_{15}
158864	1.90	0.44	1.87	0.45	4.58	1.02	6.83	1.53	6.84	1.52	7.42	1.43
159090	1.71	0.22	2.35	0.29	4.77	0.57	7.85	0.94	5.10	0.64	5.10	0.85
159176	1.91	0.24	2.16	0.27	4.27	0.53	6.76	0.85	4.85	0.61	4.96	0.80
159864	1.74	0.18	2.17	0.22	4.30	0.42	6.84	0.68	5.37	0.54	5.89	0.80
161056	1.64	0.12	1.93	0.14	4.02	0.28	6.36	0.44	4.37	0.31	4.40	0.56
161061	1.80	0.08	2.08	0.10	4.31	0.19	6.73	0.31	4.98	0.26	5.37	0.50
161291	1.86	0.09	2.24	0.19	4.68	0.33	6.73	1.13	5.52	0.36	5.61	1.20
161653	2.60	0.55	3.08	0.65	6.06	1.25	9.42	1.95	7.05	1.48	7.17	1.36
161961	1.59	0.15	2.05	0.20	4.22	0.39	6.91	0.64	4.84	0.46	5.07	0.71
162168	1.88	0.10	2.36	0.13	4.81	0.26	7.41	0.40	5.60	0.30	5.88	0.57
162978	1.97	0.28	2.53	0.37	4.69	0.68	7.40	1.08	5.36	0.78	5.89	0.94
163522	1.90	0.44	2.26	0.53	4.79	1.06	7.40	1.65	8.85	1.92	10.63	1.65
163758	1.86	0.24	2.30	0.30	4.62	0.60	7.25	0.94	6.71	0.85	8.12	1.03
163800	1.74	0.13	2.10	0.16	4.13	0.31	6.48	0.49	4.55	0.34	4.74	0.59
163892	1.58	0.20	2.08	0.26	4.34	0.51	6.99	0.83	4.51	0.56	4.47	0.79
164284	1.42	0.33	2.17	0.47	4.61	0.99	6.37	1.39	5.46	1.21	5.63	1.21
164353	2.44	0.88	2.58	0.92	5.03	1.77	7.34	2.48	4.14	1.84	4.10	1.84
164402	2.23	0.42	2.50	0.49	4.59	0.88	6.43	1.26	5.72	1.12	5.98	1.20
164492	2.17	0.30	0.79	0.15	2.85	0.43	5.49	0.81	3.46	0.52	3.08	0.69
164794	1.79	0.23	1.99	0.26	4.20	0.54	6.72	0.87	4.44	0.58	4.33	0.76
164816	1.58	0.27	1.80	0.30	3.54	0.57	5.63	0.92	3.45	0.61	3.57	0.87
165016	1.23	0.50	1.52	0.66	3.52	1.25	5.89	1.89	1.30	1.37	0.26	1.57
165024	2.20	1.95	3.32	2.92	7.26	6.03	9.58	7.79	9.74	8.50	10.44	4.94
165516	1.90	0.29	2.00	0.31	3.94	0.58	6.35	0.94	4.14	0.65	3.98	0.87
165921	1.76	0.16	2.06	0.19	3.89	0.35	6.24	0.56	4.19	0.39	4.05	0.63
166546	1.57	0.31	1.95	0.38	4.10	0.76	6.84	1.27	3.75	0.76	3.21	0.94
166734	1.74	0.07	2.08	0.07	4.22	0.14	6.99	0.33	4.50	0.15	4.76	0.39
167128	1.44	0.46	1.84	0.57	4.42	1.32	7.06	2.10	6.07	1.81	6.09	1.36
167263	1.50	0.29	1.91	0.36	3.98	0.71	6.60	1.18	4.14	0.79	4.51	1.02
167264	2.08	0.36	2.36	0.41	4.57	0.77	7.02	1.19	5.22	0.91	5.27	1.06
167659	1.73	0.15	2.10	0.18	4.05	0.35	6.47	0.56	4.26	0.37	4.53	0.63
167771	1.62	0.20	2.29	0.28	4.55	0.56	7.16	0.89	4.86	0.61	5.46	0.84
167838	1.85	0.15	2.09	0.17	4.24	0.33	6.66	0.48	4.67	0.42	4.81	0.65
167971	1.72	0.07	1.85	0.08	3.86	0.16	6.33	0.26	4.17	0.18	4.39	0.42
168076	1.74	0.10	1.33	0.08	3.28	0.19	5.70	0.33	3.82	0.22	3.96	0.47
168112	1.80	0.08			3.32	0.18	5.00	0.25	7.76	0.37	4.95	0.46
168137	1.40	0.14	0.74	0.18	2.06	0.24	4.19	0.36	1.49	0.35	1.61	0.48
168476	1.22	0.29	2.34	0.52	8.38	1.82	10.67	2.31	12.42	2.69	14.34	1.79
169034	1.80	0.06	2.26	0.09	4.41	0.21	6.55	0.77	5.14	0.23	5.14	0.43
169454	1.76	0.07	2.12	0.09	4.10	0.16	6.21	0.24	5.56	0.22	6.04	0.48
169582	1.81	0.09	2.15	0.11	4.23	0.21	6.51	0.33	5.19	0.26	5.71	0.53

Table 2 (continued)

HD	k_U	s_U	k_{33}	s_{33}	k_{25}	s_{25}	k_{22}	s_{22}	k_{18}	s_{18}	k_{15}	s_{15}
169727	1.74	0.07	2.03	0.08	4.08	0.16	6.62	0.28	4.58	0.18	4.73	0.42
170235	1.23	0.18	1.42	0.21	3.57	0.49	6.24	0.84	3.88	0.55	3.98	0.77
170580	1.97	0.27	2.44	0.32	4.49	0.58	6.95	0.90	5.30	0.69	5.63	0.86
170938	1.73	0.07	2.10	0.09	3.97	0.17	6.21	0.26	4.58	0.20	4.50	0.44
171012	1.72	0.11	2.19	0.15	4.35	0.28	6.73	0.44	5.27	0.35	5.65	0.62
171589	1.76	0.13	2.16	0.16	4.30	0.31	6.88	0.51	5.15	0.38	5.75	0.65
172252	1.43	0.07	1.72	0.09	3.63	0.17	5.83	0.27	4.68	0.22	5.12	0.49
172275	1.73	0.07	2.09	0.09	4.22	0.17	6.67	0.29	4.96	0.20	5.24	0.45
172488	1.81	0.11	2.22	0.14	4.52	0.26	6.91	0.40	5.68	0.33	6.29	0.61
172694	1.81	0.23	1.89	0.37	4.02	0.49	6.19	0.70	4.37	0.66	4.12	0.86
173438	1.78	0.08	2.22	0.10	4.41	0.19	6.71	0.30	5.67	0.25	6.34	0.53
175754	1.67	0.36	2.40	0.52	4.36	0.95	6.83	1.49	5.56	1.20	6.96	1.27
175876	1.63	0.37	2.00	0.45	3.77	0.86	6.08	1.38	4.47	1.01	5.42	1.15
177291	1.36	0.13	1.42	0.14	3.15	0.27	4.28	0.37	3.69	0.33	3.92	0.57
178175	1.86	0.56	2.26	0.67	4.56	1.32	7.49	2.16	5.09	1.48	5.40	1.27
179406	1.81	0.25	2.27	0.30	4.56	0.59	7.15	0.93	4.97	0.65	5.03	0.82
183143	1.72	0.06	1.99	0.07	4.44	0.15	7.36	0.39	4.75	0.17	4.63	0.40
183362	1.57	0.96	2.33	1.37	5.83	3.35	8.36	4.80	9.19	5.27	10.09	2.45
184915	1.59	0.31	2.01	0.39	4.32	0.80	6.70	1.25	4.96	0.94	4.94	1.03
184943	1.41	0.10	1.63	0.12	3.74	0.22	6.11	0.36	4.23	0.25	4.26	0.51
185268	2.17	1.61	2.92	2.02	5.33	3.66	8.22	5.57	5.90	4.02	6.17	2.27
185859	1.73	0.12	2.03	0.14	4.18	0.28	6.65	0.44	4.54	0.32	4.42	0.56
186660	1.91	0.38	2.11	0.40	4.31	0.80	6.45	1.18	3.80	0.72	3.35	0.83
186745	1.58	0.09	1.91	0.10	4.26	0.21	6.83	0.33	4.93	0.27	5.00	0.51
186841	1.68	0.07	1.99	0.09	4.03	0.17	6.43	0.27	4.53	0.20	4.53	0.44
188001	1.68	0.29	2.01	0.31	4.70	0.66	7.84	1.06	5.55	0.79	5.51	0.93
188209	4.11	1.95	4.31	2.00	8.78	4.00	13.29	6.01	13.48	6.09	15.40	2.94
190066	1.81	0.22	2.19	0.26	4.60	0.52	7.13	0.82	5.98	0.69	6.39	0.90
190429	1.55	0.16	1.82	0.18	3.91	0.37	6.30	0.61	4.77	0.48	5.44	0.76
190603	1.69	0.12	2.12	0.15	4.23	0.27	6.66	0.41	5.55	0.33	5.85	0.60
190918	1.90	0.19	1.07	0.12	3.65	0.37	6.26	0.63	5.23	0.52	5.63	0.75
190944	1.21	0.12	1.43	0.14	3.19	0.30	5.15	0.48	4.04	0.39	4.42	0.66
191610	1.33	0.98	2.15	1.48	4.98	3.34	7.30	4.90	7.55	5.06	8.03	2.37
191612	1.87	0.16	2.28	0.19	4.47	0.37	6.99	0.59	5.57	0.46	6.31	0.73
192639	1.78	0.12	2.22	0.15	4.59	0.31	7.51	0.52	5.28	0.36	5.77	0.63
193322	2.00	0.21	2.47	0.27	4.55	0.47	6.80	0.71	5.23	0.56	5.13	0.76
193514	1.81	0.11	2.37	0.14	4.73	0.28	7.52	0.45	5.68	0.34	6.16	0.61
194279	1.76	0.07	1.92	0.08	4.03	0.16	6.10	0.23	4.98	0.23	5.14	0.46
194839	1.85	0.07	2.29	0.09	4.41	0.16	6.83	0.26	5.40	0.21	5.61	0.46
195407	1.58	0.12	1.97	0.16	4.07	0.29	6.42	0.45	4.69	0.35	4.93	0.62

Table 2 (continued)

HD	k_U	s_U	k_{33}	s_{33}	k_{25}	s_{25}	k_{22}	s_{22}	k_{18}	s_{18}	k_{15}	s_{15}
198478	1.80	0.15	2.31	0.20	4.81	0.39	7.21	0.55	5.70	0.53	5.97	0.76
198931	1.78	0.09	1.99	0.10	3.70	0.18	5.27	0.25	4.61	0.22	4.94	0.49
199216	1.85	0.12	2.34	0.15	4.99	0.75	7.67	0.48	5.99	0.38	6.23	0.64
199356	1.61	0.17	1.93	0.20	3.89	0.38	5.54	0.55	5.10	0.51	5.77	0.78
199478	1.32	0.14	1.85	0.18	4.13	0.37	6.41	0.56	5.26	0.48	5.60	0.76
199579	1.88	0.23	2.44	0.30	4.68	0.56	6.91	0.83	5.84	0.71	6.37	0.91
200120	1.10	0.25	6.60	1.91	6.72	2.09	6.93	2.03	6.34	1.87	5.02	1.44
200775	1.66	0.12	1.71	0.12	3.37	0.24	4.67	0.33	4.03	0.28	4.10	0.53
200857	1.63	0.10	2.06	0.12	4.26	0.24	6.46	0.37	5.52	0.32	6.08	0.59
202850	1.69	0.66	3.15	1.08	7.64	2.47	9.35	3.10	10.25	3.33	11.83	2.50
202904	2.39	0.76	2.49	0.79	5.75	1.80	7.15	2.27	7.70	2.43	8.03	1.75
203064	1.45	0.26	2.46	0.42	4.45	0.77	6.87	1.19	4.97	0.86	5.59	1.01
203532	2.03	0.29	2.36	0.33	4.54	0.63	6.62	0.92	5.44	0.76	5.75	0.91
203938	1.84	0.11	2.25	0.13	4.56	0.27	7.02	0.41	5.27	0.32	5.46	0.58
204827	1.83	0.08	2.28	0.09	4.46	0.17	6.49	0.26	5.96	0.24	7.15	0.55
206165	1.88	0.21	2.47	0.28	5.22	0.53	7.62	0.75	6.79	0.76	7.31	0.96
206183	1.58	0.18	1.99	0.21	3.93	0.41	6.19	0.65	4.32	0.48	4.58	0.74
206267	1.94	0.16	1.97	0.16	4.36	0.36	7.05	0.58	5.33	0.43	5.49	0.67
206773	1.45	0.14	1.55	0.14	3.48	0.30	5.33	0.47	3.92	0.36	4.38	0.65
207198	1.80	0.16	2.16	0.17	4.50	0.33	6.78	0.48	5.83	0.42	6.36	0.68
208501	1.68	0.11	2.00	0.13	4.12	0.26	6.00	0.38	5.53	0.35	6.16	0.64
208682	2.39	0.55	2.23	0.51	4.96	1.13	7.12	1.63	6.34	1.46	6.91	1.36
209975	1.64	0.27	2.38	0.33	5.00	0.65	7.63	0.97	6.19	0.81	6.50	0.96
210839	1.80	0.15	2.46	0.21	5.09	0.43	8.02	0.67	5.88	0.49	6.15	0.72
211853	1.92	0.13	2.37	0.18	4.76	0.33	7.58	0.53	5.36	0.39	5.43	0.64
212044	1.35	0.20	2.03	0.29	3.58	0.51	5.01	0.73	4.75	0.70	5.31	0.92
212076	1.71	1.04	1.91	1.26	4.84	2.82	7.26	4.19	5.66	3.32	6.11	2.13
212593	2.55	1.04	3.70	1.45	7.76	2.96	9.51	3.72	10.57	4.05	12.06	2.84
214680	1.27	0.75	3.59	1.96	5.29	2.94	7.81	4.38	6.57	3.63	8.07	2.34
216411	1.75	0.10	2.19	0.12	4.44	0.23	6.96	0.37	5.62	0.30	5.99	0.57
216898	1.72	0.09	2.13	0.11	4.17	0.22	6.81	0.36	4.51	0.24	4.65	0.49
217050	4.82	1.77	5.04	1.84	9.15	3.34	11.26	4.11	9.43	3.46	9.26	1.94
217086	1.78	0.08	2.15	0.10	4.33	0.20	6.86	0.32	4.58	0.21	4.57	0.45
217101	2.13	1.11	2.74	1.38	5.08	2.55	7.48	3.77	4.85	2.46	4.36	1.61
217543	1.53	0.88	2.21	1.22	4.79	2.57	8.41	4.51	6.51	3.50	6.17	1.86
218342	1.72	0.11	2.12	0.14	4.11	0.25	6.42	0.40	4.67	0.30	5.06	0.58
218537	1.50	0.41	1.61	0.41	3.69	0.93	6.53	1.65	3.88	0.99	3.91	1.04
219287	1.71	0.06	1.92	0.07	4.06	0.15	6.41	0.80	4.73	0.18	5.00	0.42
220116	1.69	0.09	1.89	0.10	4.13	0.21	6.48	0.33	4.86	0.25	5.23	0.52
223924	1.63	0.29	2.01	0.35	4.50	0.76	7.20	1.21	5.70	0.97	6.21	1.06
224599	1.73	0.11	2.31	0.15	4.43	0.28	6.85	0.43	5.37	0.35	5.96	0.62

Table 2 (continued)

HD, BD	k_U	s_U	k_{33}	s_{33}	k_{25}	s_{25}	k_{22}	s_{22}	k_{18}	s_{18}	k_{15}	s_{15}
224905	2.03	0.23	2.48	0.27	5.00	0.54	7.71	0.84	6.40	0.70	6.97	0.88
225094	1.71	0.19	1.94	0.21	4.12	0.42	6.62	0.63	4.57	0.54	4.86	0.77
225146	1.77	0.12	2.12	0.16	4.36	0.31	7.01	0.50	5.29	0.38	5.84	0.66
225160	1.74	0.16	2.04	0.17	4.41	0.34	7.20	0.54	5.20	0.41	5.26	0.64
225985	1.52	0.20	1.86	0.23	3.78	0.46	6.02	0.74	4.52	0.56	4.85	0.78
226868	1.80	0.07	1.88	0.08	4.25	0.18	6.13	0.26	5.22	0.22	5.70	0.49
228712	1.83	0.06	2.21	0.08	4.42	0.17	6.37	0.77	5.21	0.25	5.61	0.51
228779	1.86	0.06	2.25	0.07	4.79	0.29	5.57	0.66	5.41	0.66	5.06	0.74
229033	1.88	0.09	2.34	0.12	5.04	0.24	8.37	0.58	5.66	0.27	5.67	0.53
236689	1.74	0.15	2.13	0.18	4.40	0.36	7.06	0.57	5.31	0.44	5.81	0.70
236923	1.78	0.12	1.82	0.14	4.21	0.31	7.23	0.48	5.60	0.39	6.00	0.63
249845	1.96	0.33	2.93	0.50	5.78	0.93	8.80	1.42	7.30	1.18	8.13	1.15
250028	1.23	0.12	1.99	0.20	4.03	0.36	6.58	0.58	4.43	0.41	4.69	0.65
254577	1.02	0.05	1.83	0.08	2.24	0.25	4.33	0.21	6.44	0.28	5.69	0.53
259597	1.97	0.24	2.58	0.33	4.84	0.59	6.84	0.83	5.76	0.71	6.01	0.89
262013	4.80	3.93	7.58	6.22	12.78	10.28	13.82	11.12	14.44	11.60	14.72	3.64
−14 5029	1.74	0.06	2.11	0.13	3.98	0.28	5.59	...	4.84	0.28	4.44	0.35
−12 5008	1.75	0.06	2.70	0.16	4.71	...	5.86	...	4.62	0.18	4.43	0.33
+40 4220	1.86	0.05	2.22	0.08	3.77	0.52	4.50	0.52	4.08	0.52	4.12	0.59
+40 4227	1.85	0.06	1.89	0.06	4.44	0.38	5.91	...	4.84	0.15	4.58	...
+41 4064	2.05	0.18	2.09	0.19	4.27	0.76	7.24	0.31	5.14	0.23	5.25	0.47
+54 490	1.79	0.22	2.27	0.29	4.59	0.55	7.48	0.89	5.50	0.65	6.19	0.87
+56 473	1.83	0.17	2.11	0.20	4.39	0.39	6.99	0.62	5.24	0.48	5.63	0.73
+56 586	2.02	0.16	0.65	0.09	3.12	0.24	6.28	0.47	4.29	0.32	4.90	0.61
+56 624	1.59	0.14	1.88	0.22	3.88	0.32	6.81	0.55	4.62	0.40	5.29	0.66
+60 2522	1.78	0.10	1.88	0.11	3.76	0.21	6.26	0.35	4.42	0.25	4.81	0.52
+61 40	1.86	0.11	2.09	0.14	4.35	0.27	6.83	0.42	5.64	0.35	5.65	0.60
+62 2210	1.61	0.07	1.83	0.09	3.76	0.87	4.84	0.29	4.41	0.88	4.07	0.94

Table 3. Ratios of consecutive color excesses $k_\lambda = E_{\lambda-V}/E_{B-V}$.

HD	k_R	s_R	k_I	s_I	k_J	s_J	k_H	s_H	k_K	s_K	k_L	s_L	k_M	s_M
108					−2.54	0.22	−2.92	0.26	−3.35	0.29	−4.15	0.36	−4.92	0.42
1544									−2.84	0.32	−2.84	0.32		
2083					−1.12	0.20	−1.31	0.22						
2905	−0.73	0.11	−1.60	0.22	−1.97	0.27	−2.93	0.41	−2.73	0.38	−3.10	0.43	−3.37	0.46
3901					−3.18	1.52			−3.18	1.54	−4.82	2.30		
4180					−3.31	1.03	−3.23	1.00	−3.46	1.08	−4.15	1.29	−7.00	2.16
4841					−2.19	0.14	−2.60	0.16	−2.85	0.18	−3.12	0.19		
6811							−4.50	3.01	−4.67	3.12	−4.67	3.12	−8.67	5.79
7252					−1.63	0.22	−1.94	0.25	−2.22	0.30				
7902					−2.08	0.18	−2.71	0.23	−2.81	0.24	−3.02	0.25		
9311									−2.58	0.29	−3.03	0.34		
10516					−3.95	0.80	−4.65	0.94	−7.30	1.47	−10.05	2.02	−12.30	2.47
12867					−2.00	0.22	−2.21	0.24	−1.61	0.19				
13267	−0.71	0.08	−1.62	0.16					−2.79	0.27	−3.05	0.29	−3.52	0.34
13900					−1.50	0.17	−1.90	0.21	−2.13	0.24				
13969					−1.98	0.15	−2.17	0.17	−2.30	0.18				
14092					−2.22	0.20	−2.09	0.19	−2.07	0.19				
14134					−1.91	0.14	−2.12	0.15	−2.62	0.19	−3.03	0.21	−3.19	0.22
14250					−2.02	0.15	−2.20	0.17	−2.36	0.18				
14322					−2.25	0.21	−2.91	0.27	−3.14	0.29				
14357					−2.06	0.18	−2.22	0.19	−2.20	0.19	−2.53	0.22		
14422					−1.51	0.09	−1.83	0.11	−2.19	0.13	−2.72	0.16		
14542					−1.75	0.11	−2.17	0.14	−2.32	0.15	−2.94	0.18	−3.09	0.19
14605							−2.92	0.25	−3.75	0.33	−4.00	0.35		
14818					−2.15	0.19	−2.63	0.23	−2.72	0.24	−2.96	0.26	−3.20	0.28
14947					−2.32	0.13	−2.61	0.15	−2.70	0.15	−3.16	0.18	−3.42	0.19
14956									−2.47	0.12	−2.76	0.13		
15497									−2.57	0.13	−2.76	0.14	−2.92	0.14
16429					−2.11	0.11	−2.37	0.12	−2.42	0.12	−2.52	0.13	−2.65	0.13
16779									−2.50	0.11	−2.67	0.12		
16908							−2.50	0.43	−3.00	0.61	−2.50	0.63		
17114					−2.15	0.12	−2.38	0.13	−2.60	0.15				
17145									−2.71	0.13	−2.85	0.14		
17603									−2.64	0.12	−2.97	0.14		

Table 3 (continued)

HD	k_R	s_R	k_I	s_I	k_J	s_J	k_H	s_H	k_K	s_K	k_L	s_L	k_M	s_M
18352					−1.58	0.15	−2.00	0.19	−2.38	0.22				
19356					−3.00	1.52			−4.75	2.38	−6.38	3.19	−8.13	4.07
19820					−2.07	0.12	−2.36	0.13	−2.54	0.14	−2.53	0.14	−2.72	0.15
21071					−1.67	1.15	−1.83	1.47	−2.17	1.60				
21212							−3.04	0.15	−3.45	0.18	−3.98	0.20	−3.98	0.20
21291	−0.85	0.08	−1.67	0.15	−2.52	0.22			−3.09	0.27	−3.37	0.30	−3.52	0.31
21551					−2.11	0.96	−3.00	1.35	-2.00	0.91				
23288					−2.78	1.25	−3.11	1.40	-2.78	1.25	−2.33	1.05	−2.22	1.01
23324					−2.33	1.58	−2.50	1.69	-2.50	1.69	−2.83	1.91		
23480					−3.50	1.76	−3.88	1.95	-5.00	2.52	−6.75	3.39	−6.88	3.45
23753					−2.75	0.43								
24431					−2.43	0.16	−3.02	0.19	-3.19	0.20	−3.28	0.21	−3.34	0.22
24912	−0.54	0.11	−1.54	0.25	−2.50	0.40	−2.89	0.46	-3.08	0.49	−3.42	0.54	−3.50	0.55
25204					−3.47	1.88	−4.00	2.16	-4.67	2.53	−5.73	3.09	−5.07	2.74
25348					−3.36	0.31	−3.80	0.35	-4.57	0.42				
26571									-2.44	0.37	-2.70	0.41	−2.56	0.38
29866					−2.21	0.64	−3.00	0.87	-3.14	0.91				
30614	−0.62	0.09	−1.27	0.17	−1.77	0.23	−2.06	0.26	-2.12	0.27	−2.35	0.30	−2.71	0.34
32343					−2.48	0.82	−3.28	1.07	-4.08	1.33	−6.64	2.14		
34078					−2.43	0.21	−2.78	0.24	-2.88	0.24	−2.94	0.26	−3.02	0.26
34748					−1.18	0.48			-1.55	0.64	3.09	1.16		
34989					−1.60	0.69	−2.90	1.19	-1.70	0.76	−2.00	0.87		
35079					−2.07	0.57			-2.53	0.71	−3.87	1.05		
35149					−2.29	1.35			-1.71	1.09	−0.71	0.63		
35215					−2.52	0.33	−2.65	0.35	-2.87	0.39				
35411	−1.20	0.51	−1.60	0.69	−2.50	1.05	−2.90	1.21	-2.90	1.21	−2.90	1.24	−3.20	1.35
35502					−1.82	0.68			-2.09	0.79	−4.09	1.50		
35653					−2.36	0.27	−2.53	0.30	-2.83	0.33				
35673					−2.57	1.49			-2.71	1.57				
35910					−1.20	0.35			-3.80	1.08				
36013							−2.75	0.43	-4.75	0.61	−6.75	2.25		
36351					−2.33	3.30	−2.67	3.72	-3.67	5.01	−4.00	5.00		
36629					−2.52	0.41	−3.32	0.55	-3.32	0.55	−3.80	0.62	−5.84	0.94
36646					−2.13	1.18			-2.80	1.56	−0.13	0.45		

Table 3 (continued)

HD	k_R	s_R	k_I	s_I	k_J	s_J	k_H	s_H	k_K	s_K	k_L	s_L	k_M	s_M
36695					−1.17	0.88			−2.00	1.44	−0.33	0.60		
36822					−1.63	0.87			−1.75	0.97	−2.50	1.32		
37017					−2.00	1.05	−2.50	1.29	−2.75	1.44	−2.63	1.38	−3.88	1.98
37040					−1.46	0.57	−2.36	0.91	−2.09	0.82	−2.00	0.79	−3.73	1.39
37061					−3.23	0.28	−3.85	0.34	−3.70	0.32	−4.30	0.37	−5.45	0.47
37356					−2.44	0.56	−3.11	0.70	−2.83	0.66	−2.78	0.64	−3.72	0.85
37903					−2.78	0.36	−3.28	0.42	−3.56	0.46	−3.25	0.42	−4.09	0.52
38131					−2.13	0.20	−2.36	0.22	−2.58	0.24				
38191					−2.70	0.30	−3.08	0.34	−3.65	0.40				
38708							−4.93	1.33	−5.40	1.46				
39680									−5.61	0.63	—7.06	0.79		
39746									−2.68	0.27				
40111									−2.42	0.85	—2.92	1.01		
41117					−2.11	0.20			−2.80	0.26	−3.23	0.30	−3.32	0.31
41335					−4.60	1.24	−5.33	1.43	−7.33	1.97	−10.80	2.89	−11.53	3.08
41398									−2.81	0.24				
41690					−2.15	0.23	−2.39	0.25	−2.28	0.25				
42087									−2.71	0.33				
42088									−3.08	0.36				
42259					−2.00	0.13	−2.30	0.15	−2.59	0.17	−2.64	0.17		
43384									−2.85	0.20	3.09	0.22	−3.24	0.23
43818									−3.08	0.25				
44139					−2.28	0.18	−2.60	0.21	−2.77	0.22				
44458					−3.44	0.56	−4.08	0.66	−5.44	0.88	−6.92	1.12	−7.96	1.28
44965	−0.86	0.09	−1.50	0.15					−3.10	0.30				
45314									−2.34	0.23	−3.43	0.33		
45626							−3.13	0.84	−4.73	1.27				
45910					−3.42	0.25	−4.76	0.35	−5.49	0.40	−6.18	0.45	−6.73	0.49
46150					−2.26	0.22	−2.54	0.26	−2.77	0.28	−3.09	0.30	−3.28	0.33
46202					−2.22	0.21	−2.63	0.24	−2.87	0.26	−3.00	0.28		
46380									−3.61	0.26				
46484					−2.22	0.16	−2.53	0.18	−2.58	0.18	-2.61	0.19		
46485	−0.64	0.05	−1.59	0.11	−2.33	0.16	−2.67	0.19	−2.80	0.20	-2.80	0.20		
46559	−0.85	0.06	−1.56	0.11					−2.71	0.18				

Table 3 (continued)

HD	k_R	s_R	k_I	s_I	k_J	s_J	k_H	s_H	k_K	s_K	k_L	s_L	k_M	s_M
46573					−2.37	0.16	−2.68	0.18	−2.75	0.19	−2.60	0.18		
46660					−0.82	0.08			−2.70	0.21				
46711	−0.87	0.04	−1.66	0.07					−2.85	0.12				
46867									−2.82	0.27				
46883									−2.69	0.18	−2.86	0.19		
46966									−3.43	0.68				
47032									−2.72	0.17				
47129	−0.69	0.11	−1.62	0.23	−2.38	0.34	−2.76	0.40	−3.10	0.44	−3.90	0.55	−4.52	0.63
47240	−0.85	0.11	−1.68	0.20	−2.29	0.28	−2.71	0.33	−2.82	0.35	−2.82	0.35		
47432	−0.81	0.10	−1.57	0.18	−2.32	0.27	−2.68	0.30	−2.81	0.32	−2.84	0.33	−3.14	0.36
48099					−2.72	0.45	−2.88	0.49	−3.00	0.51	−3.20	0.54	−4.00	0.67
48279									−2.97	0.28				
48434									−2.76	0.55				
49585					−2.29	0.28	−2.35	0.29	−2.82	0.35				
49787					−1.28	0.31			−1.72	0.42				
50064	−0.96	0.05	−1.81	0.09	−2.66	0.13	−3.17	0.16	−3.40	0.17	−3.62	0.18	−3.78	0.19
50658							−3.00	1.52	−2.75	1.41				
50820					−3.12	0.17	−4.12	0.22	−4.44	0.23	−4.81	0.25	−4.46	0.24
52266									−3.95	0.77				
52382	−0.92	0.11	−1.63	0.18					−2.74	0.30				
53367					−2.61	0.16	−3.09	0.19	−3.76	0.23	−4.36	0.26	−5.02	0.30
53755	−0.74	0.18	−2.11	0.45	−2.11	0.46	−2.37	0.53	−2.68	0.59	−2.95	0.64	−3.90	0.84
53974	−0.70	0.12	−1.63	0.25	−2.15	0.33	−2.63	0.41	−3.04	0.47	−2.96	0.46	−3.22	0.49
53975	−0.87	0.21	−2.22	0.49	−1.95	0.43	−2.70	0.59	−2.54	0.56	−2.81	0.61	−5.51	1.20
54309					−6.00	2.41	−7.50	3.01	−9.30	3.73	−13.70	5.49	−15.60	6.25
54439									−2.36	0.36				
54662	−0.65	0.12	−1.58	0.25	−2.12	0.34	−2.42	0.39	−2.77	0.44	−2.85	0.46	−2.89	0.46
55606					−4.68	0.99	−5.68	1.20	−7.11	1.51				
55879									−1.83	1.50				
56847	−0.97	0.13	−1.97	0.25			−3.56	0.45	−4.03	0.51				
57060	−1.29	0.39	−2.14	0.64	−2.71	0.81	−4.21	1.24	−4.36	1.30	−5.57	1.63	−5.71	1.67
57061	−1.20	0.51	−1.90	0.80	−2.50	1.05	−3.30	1.36	−3.40	1.40	−3.50	1.46	−3.10	1.31
57150					−2.78	1.26	−4.22	1.90	−7.44	3.33	−13.11	5.84	−15.89	7.07
57682	−1.22	0.58	−3.56	1.60	−2.33	1.10	−2.89	1.34	−3.00	1.38	−1.89	0.96		

Table 3 (continued)

HD	k_R	s_R	k_I	s_I	k_J	s_J	k_H	s_H	k_K	s_K	k_L	s_L	k_M	s_M
58343					−4.71	1.36	−5.36	1.54	−5.57	1.61	−7.79	2.24	−7.86	2.26
58978					−4.38	2.21	−8.50	4.26	−10.63	5.33	−13.88	6.95	−17.63	8.82
59094	−0.86	0.11	−2.08	0.24	−3.11	0.35	−3.81	0.43	−4.64	0.52	−5.56	0.62		
60325									−2.27	0.86				
60479	−0.83	0.07	−1.61	0.12	−2.21	0.17	−2.54	0.19	−2.68	0.20	−2.67	0.20		
60606					−4.75	1.60	−5.92	1.98	−8.25	2.76	−12.17	4.07	−14.00	4.67
60855					−3.33	1.51	−2.89	1.31	−2.89	1.34	−3.56	1.62	−7.44	3.33
61827	−0.63	0.04	−1.49	0.08	−2.26	0.12	−2.67	0.14	−2.86	0.15	−3.15	0.17		
63462	−1.39	0.32	−2.67	0.61	−3.83	0.87	−5.22	1.17	−6.72	1.51	−8.72	1.95	−10.00	2.23
63922					−1.00	0.94	−3.00	2.49	−2.40	2.03	−3.00	2.49	−2.40	2.03
64760	−1.00	0.54	−1.75	0.90	−1.50	0.81	−2.38	1.26	−1.88	1.03	−2.25	1.20	−2.25	1.20
65875					−2.75	0.94	−5.50	1.84	−6.08	2.05	−9.00	3.01	−10.67	3.57
68450	−0.95	0.20	−1.62	0.32	−2.38	0.47	−2.71	0.54	−3.05	0.60	−3.52	0.69	−3.29	0.65
68980	−1.50	0.52	−2.50	0.85	−3.50	1.18	−5.00	1.69	−7.17	2.40	−10.50	3.51	−12.67	4.23
69106	−0.71	0.48	−3.14	1.81	−1.43	0.89	−2.29	1.35	−1.71	1.09	−2.57	1.54		
69464	−0.70	0.06	−1.71	0.12	−2.61	0.19	−2.97	0.21	−3.27	0.23	−3.42	0.24	−3.36	0.24
70930					−2.33	1.61			−5.00	3.38				
71304	−0.70	0.04	−1.48	0.08	−2.08	0.12	−2.39	0.13	−3.29	0.18	−2.84	0.16	−2.73	0.15
73882	−0.75	0.05	−1.68	0.11	−2.52	0.17	−3.03	0.20	−3.25	0.21	−3.32	0.22	−3.06	0.21
74194	−0.80	0.08	−1.84	0.16	−2.51	0.22	−2.88	0.24	−3.04	0.26	−3.33	0.29	−3.33	0.29
75211	−0.61	0.05	−1.48	0.09	−2.23	0.14	−2.64	0.16	−2.75	0.17	−2.93	0.19	−2.83	0.18
75222					−2.23	0.15	−2.68	0.19	−2.78	0.19	−2.73	0.19		
75759	−0.82	0.22	−2.35	0.57	−1.94	0.50	−2.53	0.63	−2.53	0.63	−2.71	0.68	−2.59	0.66
76534					−1.92	0.22	−2.17	0.25	−2.64	0.31	−3.92	0.44		
76838					−2.36	0.39	−2.76	0.46	−2.88	0.48	−4.76	0.77		
76868							−5.36	0.55	−5.85	0.61				
76968	−0.82	0.10	−1.77	0.19	−2.28	0.25	−2.80	0.30	−2.92	0.31	−3.31	0.36	−3.08	0.33
77581	−0.89	0.06	−1.65	0.10	−2.07	0.12	−2.45	0.15	−2.62	0.15	−2.80	0.16	−2.55	0.15
78785	−0.61	0.04	−1.46	0.09	−2.18	0.13	−2.52	0.15	−2.60	0.16	−2.63	0.16		
79186	−0.82	0.11	−1.71	0.21	−3.59	0.43	−3.79	0.45	−3.85	0.46	−4.09	0.49	−4.21	0.50
83183	−1.13	0.60	−2.13	1.08	−2.38	1.21	−3.13	1.58	−3.25	1.64	−4.13	2.07	−4.63	2.32
84567	−0.67	0.21	−2.20	0.60	−1.60	0.46	−2.27	0.64	−2.47	0.69	−3.00	0.83		
88661					−4.40	1.18	−5.13	1.38	−5.60	1.51	−5.93	1.60	−6.87	1.84
89137	−1.00	0.48	−3.22	1.44	−1.33	0.62	−2.11	0.98	−2.33	1.07	−4.22	1.90		

Table 3 (continued)

HD	k_R	s_R	k_I	s_I	k_J	s_J	k_H	s_H	k_K	s_K	k_L	s_L	k_M	s_M
93205					−3.06	0.36	−3.37	0.40	−3.63	0.43	−3.66	0.44	−3.69	0.45
93222	−0.77	0.11	−2.03	0.24	−3.23	0.38	−3.94	0.46	−4.26	0.50	−4.29	0.51	−4.26	0.51
93250					−2.75	0.25	−3.14	0.29	−3.39	0.31				
93540	−1.80	1.00	−4.40	3.54	−3.00	2.42	−4.80	3.86	−4.00	3.24	−4.60	3.71		
93843	−0.56	0.10	−1.78	0.28	−2.07	0.33	−2.63	0.42	−3.07	0.48	−3.30	0.51		
94963	−0.68	0.16	−2.20	0.44	−2.49	0.51	−2.68	0.56	−3.17	0.65	−3.56	0.72		
96042	−0.24	0.05	−1.29	0.13	−2.07	0.21	−2.46	0.25	−2.85	0.29	−3.07	0.31		
96622	−0.80	0.09	−1.97	0.21	−2.31	0.25	−2.74	0.29	−3.05	0.32	−3.56	0.38		
96917	−0.69	0.10	−1.81	0.21	−2.00	0.24	−2.80	0.32	−2.74	0.32	−2.93	0.35		
97253	−0.63	0.06	−1.58	0.14	−2.13	0.19	−2.44	0.22	−2.63	0.24	−2.79	0.25		
97319	−0.57	0.07	−1.68	0.14	−2.20	0.19	−2.52	0.21	−2.54	0.22	−3.35	0.28		
97434	−0.62	0.07	−1.67	0.16	−2.16	0.21	−2.42	0.23	−2.58	0.24	−3.07	0.29		
97670							−1.89	0.88	−3.67	1.67				
97848	−0.68	0.15	−2.05	0.38										
97966	−0.17	0.05	−0.74	0.10	−0.17	0.05	−0.46	0.07	−0.49	0.07	−1.40	0.17		
99160	−0.89	0.09	−1.82	0.17	−2.67	0.25	−3.09	0.28	−3.36	0.31	−4.18	0.38		
100099	−0.58	0.09	−1.61	0.18	−2.26	0.25	−2.63	0.29	−2.92	0.33	−2.95	0.34		
101008	−0.67	0.13	−2.33	0.40	−2.67	0.47	−2.79	0.49	−2.92	0.51	−4.13	0.71		
101131	−0.76	0.11	−2.15	0.27	−2.52	0.32	−2.64	0.34	−2.76	0.36	−3.00	0.39		
101190	−0.61	0.09	−1.82	0.23	−2.36	0.30	−2.58	0.34	−2.67	0.36	−2.82	0.38	−3.06	0.40
101205	−0.55	0.10	−1.77	0.22	−2.09	0.26	−2.61	0.32	−2.73	0.34	−3.16	0.40		
101298	−0.72	0.09	−1.87	0.20	−2.36	0.26	−2.62	0.29	−2.97	0.32	−3.08	0.33		
101545	−0.92	0.17	−1.58	0.27	−2.29	0.40	−2.63	0.46	−3.00	0.52	−3.25	0.56	−3.50	0.60
102567					−2.74	0.26	−3.30	0.31	−3.98	0.38	−5.40	0.51		
104901	−0.95	0.20	−1.95	0.38	−3.10	0.60	−3.81	0.73	−4.05	0.78	−4.43	0.85		
105627	−0.68	0.10	−1.90	0.26	−2.13	0.29	−2.58	0.35	−2.74	0.37	−3.13	0.43		
106068	−0.94	0.13	−1.82	0.23	−2.36	0.29	−2.91	0.36	−3.09	0.38	−3.52	0.43		
109399	−0.67	0.15	−1.81	0.35	−2.10	0.42	−2.86	0.57	−3.05	0.60	−2.81	0.56		
110432	−0.83	0.08	−1.92	0.16	−2.63	0.22	−3.29	0.28	−4.04	0.34	−5.17	0.44	−5.69	0.48
112244	−1.04	0.16	−1.79	0.27	−2.43	0.37	−3.04	0.45	−3.14	0.46	−3.68	0.55		
112784	−0.60	0.10	−1.60	0.23	−2.37	0.33	−2.53	0.36	−2.60	0.36	−1.50	0.24		
113659	−1.00	0.26	−3.11	0.70	−3.39	0.78	−4.11	0.93	−4.17	0.96	−4.44	1.03		
113904	−0.95	0.20	−2.14	0.42	−2.14	0.44	−2.95	0.58	−3.48	0.68	−4.29	0.84		
114737	−0.56	0.06	−1.49	0.14	−2.20	0.21	−2.53	0.24	−2.76	0.26	−3.07	0.29		

Table 3 (continued)

HD	k_R	s_R	k_I	s_I	k_J	s_J	k_H	s_H	k_K	s_K	k_L	s_L	k_M	s_M
114886	−0.41	0.08	−1.48	0.21	−1.72	0.25	−2.24	0.32	−2.35	0.34	−2.62	0.38		
115455	−0.60	0.07	−1.68	0.15	−2.39	0.22	−2.65	0.24	−2.86	0.26	−3.38	0.31		
115842	−0.78	0.07	−1.61	0.13	−2.12	0.17	−2.55	0.21	−2.71	0.22	−2.94	0.24		
116084	−0.78	0.13	−1.70	0.26	−2.04	0.31	−2.37	0.36	−2.74	0.42	−3.15	0.48	−2.89	0.44
116852	−0.75	0.22	−2.13	0.55	−0.25	0.22	−1.19	0.36	−2.06	0.56	−1.68	0.40		
117797	−0.69	0.05	−1.67	0.09	−2.47	0.14	−2.84	0.15	−3.07	0.17	−3.24	0.18		
119159	−0.78	0.40	−2.67	1.20	−1.44	0.70	−2.11	0.98	−1.44	0.74	−1.78	0.87	−4.22	1.91
120991	−3.67	1.64	−6.67	2.97	−4.78	2.13	−7.44	3.32	−9.00	4.01	−12.67	5.64	−13.33	5.93
122879	−0.83	0.10	−1.75	0.20	−2.22	0.26	−2.69	0.31	−2.83	0.33	−3.14	0.36		
123056	−0.54	0.07	−1.49	0.17	−2.00	0.23	−2.46	0.28	−2.60	0.29	−2.60	0.30		
124314	−0.66	0.06	−1.62	0.14	−1.88	0.16	−2.12	0.19	−2.38	0.22	−2.62	0.23		
124367	−0.33	0.18	−2.08	0.71	−2.50	0.86	−3.58	1.21	−4.83	1.63	−8.50	2.85		
124471	−0.91	0.37	−3.00	1.10	−3.09	1.15	−3.64	1.34	−3.64	1.36	−3.55	1.32		
124979	−0.57	0.08	−1.65	0.17	−1.80	0.20	−1.95	0.21	−2.25	0.25	−2.64	0.29		
125206	−0.64	0.06	−1.62	0.13	−2.09	0.17	−2.47	0.20	−2.74	0.22	−2.89	0.23		
125241	−0.63	0.04	−1.46	0.08	−2.22	0.12	−2.63	0.15	−2.76	0.15	−2.97	0.17		
125288	−0.70	0.16	−1.85	0.38	−2.05	0.42	−2.90	0.59	−3.05	0.62	−3.30	0.67	−3.25	0.66
133518					−0.47	0.21	−1.20	0.36	−1.13	0.37	−0.93	0.33		
135160	−0.85	0.29	−2.62	0.82	−2.08	0.67	−2.69	0.85	−2.69	0.87	−3.15	1.00	−2.15	0.71
135240	−0.83	0.20	−2.20	0.44	−2.44	0.50	−2.78	0.57	−2.93	0.61	−2.93	0.62	−3.32	0.70
135591	−0.73	0.15	−2.05	0.39	−2.82	0.53	−3.14	0.60	−3.32	0.65	−3.41	0.66		
138764					−1.67	1.15			−2.67	1.82	−3.67	2.48		
140543	−0.80	0.18	−1.95	0.40	−1.90	0.40	−2.65	0.56	−2.65	0.56	−2.55	0.54		
142301					−2.27	0.86	−3.00	1.11	−2.82	1.07	−3.36	1.26	−5.91	2.17
142990					−2.25	1.17	−2.88	1.47	−2.13	1.14	−2.88	1.50	−3.63	1.86
143275	−0.57	0.20	−1.29	0.39	−2.14	0.64	−2.79	0.83	−2.50	0.75	−2.57	0.77	−3.21	0.95
144217					−1.69	0.45	−1.88	0.49	−2.19	0.58	−3.00	0.78	−2.00	0.54
144470					−2.50	0.57	−2.78	0.63	−3.06	0.70	−2.94	0.68		
144844	0.00	0.22	−2.50	1.27	−2.63	1.33	−3.63	1.83	−4.00	2.01	−4.38	2.20		
145502					−2.48	0.35			−3.17	0.45	−3.35	0.48		
146001					−2.10	0.43	−2.50	0.51	−2.85	0.58	−3.10	0.63	−2.75	0.56
146706									−2.95	0.57				
147165	−0.63	0.09	−1.40	0.17	−2.20	0.26	−2.69	0.31	−3.00	0.36	−3.23	0.38	−3.06	0.36
147196									−3.81	0.50				

Table 3 (continued)

HD	k_R	s_R	k_I	s_I	k_J	s_J	k_H	s_H	k_K	s_K	k_L	s_L	k_M	s_M
147648	−0.62	0.04	−1.57	0.08	−2.63	0.13	−3.17	0.16	−3.42	0.17	−3.59	0.18		
147701	−0.70	0.05	−1.72	0.10	−2.75	0.16	−3.21	0.18	−3.56	0.20	−3.87	0.22		
147889	−0.67	0.03	−1.69	0.07	−2.82	0.11	−3.38	0.13	−3.77	0.15	−4.02	0.16		
147933	−1.79	0.16	−2.83	0.24	−3.62	0.31	−4.13	0.36	−4.38	0.38	−4.30	0.37		
148184	−1.57	0.15	−2.57	0.24	−3.66	0.34	−4.09	0.38	−4.73	0.44	−5.64	0.52	−6.46	0.59
148379	−0.69	0.04	−1.49	0.08	−2.08	0.11	−2.50	0.14	−2.69	0.15	−2.95	0.16	−3.00	0.17
148579	−0.70	0.10	−1.91	0.24	−2.97	0.36	−3.58	0.44	−4.12	0.50	−4.61	0.56		
148605	−0.38	0.29	−1.00	0.54	−2.75	1.41	−2.75	1.41	−3.00	1.56	−3.00	1.56		
148688	−0.76	0.06	−1.62	0.12	−2.36	0.17	−2.79	0.20	−3.00	0.21	−3.28	0.23		
149038	−0.81	0.12	−1.69	0.22	−1.97	0.26	−2.47	0.33	−2.59	0.34	−2.91	0.38	−2.78	0.36
149363	−0.68	0.13	−1.68	0.28	−1.72	0.29	−2.12	0.36	−2.48	0.42	−2.00	0.35		
150168	−0.61	0.17	−1.78	0.41	−0.89	0.24	−2.11	0.49	−2.17	0.52	−2.33	0.55	−2.67	0.62
150574					−1.96	0.17	−2.61	0.21	−2.80	0.24	−2.63	0.23		
150898	−0.81	0.23	−1.94	0.50	−2.13	0.55	−2.50	0.66	−2.44	0.64	−2.75	0.72		
151003	−0.64	0.07	−1.57	0.14	−2.11	0.19	−2.51	0.23	−2.57	0.23	−2.66	0.24	−3.06	0.28
151346	−0.68	0.07	−1.75	0.16	−2.93	0.27	−3.55	0.32	−3.73	0.34	−3.84	0.35		
151515	−0.65	0.06	−1.69	0.15	−2.27	0.20	−2.46	0.22	−2.65	0.24	−2.75	0.25	−3.25	0.29
151564	−0.78	0.10	−1.72	0.20	−2.36	0.27	−2.78	0.32	−3.94	0.45	−5.28	0.59		
151804	−0.82	0.12	−2.00	0.24	−2.73	0.32	−3.35	0.39	−3.61	0.42	−3.97	0.47	−4.37	0.51
152003	−0.84	0.06	−1.76	0.12	−2.24	0.15	−2.71	0.18	−2.81	0.19	−3.05	0.20	−3.25	0.22
152147	−0.78	0.06	−1.63	0.11	−2.05	0.13	−2.50	0.16	−2.69	0.18	−2.80	0.18	−2.94	0.19
152217	−0.58	0.09	−1.58	0.20	−2.15	0.27	−2.49	0.31	−2.46	0.31	−2.30	0.29		
152218	−0.67	0.07	−1.73	0.16	−2.33	0.22	−2.67	0.25	−2.87	0.27	−2.91	0.28		
152235	−0.91	0.05	−1.68	0.09	−2.31	0.13	−2.69	0.15	−2.85	0.16	−3.11	0.17	−3.10	0.17
152236	−0.75	0.05	−1.68	0.11	−2.40	0.15	−2.91	0.18	−3.14	0.20	−3.51	0.22	−3.82	0.24
152245	−0.58	0.09	−1.65	0.22	−1.97	0.27	−2.26	0.31	−2.48	0.34	−2.13	0.29		
152246	−0.62	0.07	−1.60	0.15	−2.04	0.20	−2.53	0.24	−2.56	0.24	−2.82	0.27		
152247	−0.66	0.07	−1.64	0.16	−2.27	0.22	−2.59	0.25	−2.57	0.25	−2.89	0.28	−2.89	0.28
152386	−0.70	0.04	−1.61	0.08	−2.40	0.13	−2.72	0.14	−2.98	0.16	−3.51	0.18		
152405	−0.94	0.12	−1.89	0.22	−2.50	0.29	−2.81	0.33	−2.69	0.31	−3.19	0.37		
152408	−0.78	0.09	−1.84	0.17	−2.64	0.25	−3.42	0.31	−3.69	0.34	−4.44	0.41	−4.42	0.41
152424					−2.16	0.14	−2.70	0.18	−2.86	0.19	−3.00	0.19	−3.13	0.20
152478	−0.60	0.15	−2.10	0.43	−2.50	0.51	−3.15	0.64	−4.45	0.91	−6.30	1.27		
152560	−0.75	0.10	−1.86	0.21	−2.19	0.25	−2.67	0.31	−2.61	0.30				

Table 3 (continued)

HD	k_R	s_R	k_I	s_I	k_J	s_J	k_H	s_H	k_K	s_K	k_L	s_L	k_M	s_M
152667	−0.81	0.09	−1.79	0.17	−2.23	0.21	−2.79	0.27	−3.00	0.28	−3.42	0.32	−3.47	0.33
152723	−1.02	0.10	−2.09	0.20	−2.61	0.25	−3.02	0.29	−2.96	0.29	−3.21	0.31		
153261	−1.31	0.35	−3.44	0.87	−2.75	0.70	−4.06	1.04	−5.69	1.44	−8.69	2.18		
153426	−0.73	0.09	−1.79	0.18	−2.35	0.23	−2.64	0.26	−2.57	0.26	−2.68	0.28		
153919	−0.76	0.06	−1.76	0.14	−2.71	0.21	−3.06	0.24	−3.38	0.26	−3.71	0.28	−3.82	0.29
154090	−0.88	0.09	−1.50	0.15	−2.19	0.21	−2.57	0.25	−2.74	0.27	−2.88	0.28		
154368	−0.63	0.04	−1.45	0.08	−2.09	0.12	−2.67	0.15	−2.82	0.15	−2.65	0.15		
155806	−1.52	0.22	−3.07	0.43	−3.41	0.48	−4.35	0.61	−5.35	0.75	−7.10	0.99	−8.41	1.17
155851							−4.63	0.58	−5.56	0.70				
155889	−0.80	0.24	−2.27	0.62	−2.13	0.59	−3.27	0.89	−3.00	0.83	−3.33	0.92		
156201	−0.67	0.04	−1.51	0.07	−2.31	0.11	−2.70	0.13	−2.86	0.14	−3.06	0.15	−3.13	0.15
156738	−0.66	0.03	−1.51	0.05	−2.39	0.08	−2.66	0.10	−2.84	0.10	−2.98	0.11		
157246	−0.33	0.36	−2.83	1.91	−1.67	1.18	−2.50	1.72	−2.17	1.55	−2.50	1.76	−2.50	1.76
158186	−0.66	0.11	−1.93	0.28	−2.21	0.33	−2.55	0.37	−2.62	0.38	−2.66	0.39		
158864	−1.37	0.30	−3.26	0.69	−3.74	0.80	−5.26	1.12	−6.53	1.38	−9.42	1.50		
159090	−0.71	0.10	−1.69	0.20	−2.17	0.26	−2.57	0.31	−2.49	0.30	−2.69	0.32		
159176	−0.77	0.10	−1.91	0.24	−2.68	0.33	−2.94	0.37	−3.15	0.39	−3.53	0.43	−2.29	0.31
159864	−0.58	0.07	−1.51	0.15	−1.81	0.18	−2.16	0.21	−2.19	0.22	−2.44	0.24		
161056	−0.66	0.05	−1.56	0.11	−2.15	0.15	−2.51	0.18	−2.71	0.19	−2.83	0.20		
161061	−0.62	0.03	−1.37	0.06	−2.10	0.09	−2.43	0.10	−2.58	0.11	−2.68	0.11		
161291					−2.11	0.10	−2.54	0.12	−2.67	0.12	−2.95	0.13	−3.02	0.14
161653	−0.90	0.20	−2.15	0.44	−2.35	0.49	−2.60	0.55	−2.35	0.50	−2.45	0.52		
161961	−0.59	0.07	−1.46	0.14	−1.98	0.19	−2.25	0.22	−2.46	0.24	−2.61	0.25		
162168					−2.13	0.11	−2.55	0.13	−2.66	0.14	−2.84	0.15		
162978	−0.83	0.13	−2.17	0.31	−2.79	0.40	−3.17	0.46	−3.45	0.51	−3.55	0.52	−3.62	0.53
163522	−0.90	0.21	−1.90	0.41	−1.90	0.42	−2.47	0.54	−2.63	0.58	−3.21	0.70		
163758	−0.83	0.12	−2.03	0.26	−2.46	0.32	−2.77	0.36	−3.05	0.40	−3.54	0.45		
163800	−0.65	0.05	−1.61	0.12	−2.30	0.17	−2.49	0.19	−2.61	0.20	−2.77	0.21		
163892	−0.58	0.08	−1.61	0.19	−2.03	0.24	−2.44	0.29	−2.42	0.28	−2.67	0.31		
164284					−4.11	0.87	−5.21	1.11	−7.21	1.53	−9.47	2.00		
164353	−1.28	0.43	−2.72	0.88	−2.48	0.82	−3.04	0.99	−3.04	1.01	−3.60	1.18	−4.32	1.41
164402	−0.59	0.13	−1.64	0.31	−1.86	0.36	−2.46	0.47	−2.50	0.48	−2.73	0.52	−2.77	0.53
164492							−3.73	0.52	−4.50	0.62	−4.37	0.60		
164794	−1.30	0.17	−2.15	0.27	−2.73	0.35	−3.06	0.39	−3.09	0.40	−3.12	0.40	−3.33	0.43

Table 3 (continued)

HD	k_R	s_R	k_I	s_I	k_J	s_J	k_H	s_H	k_K	s_K	k_L	s_L	k_M	s_M
164816	−0.81	0.14	−2.04	0.32	−2.27	0.36	−2.77	0.44	−2.50	0.41	−2.85	0.46		
165016	−0.39	0.18	−2.15	0.68	−1.39	0.45	−1.77	0.58	−2.00	0.64	−1.77	0.58		
165024	0.00	0.35	−3.80	3.06	−2.60	2.11	−3.60	2.92	−3.20	2.61	−3.40	2.76		
165516	−0.69	0.11	−1.72	0.25					−2.66	0.38	−3.21	0.46	−4.72	0.66
165921									−2.89	0.27	−3.02	0.28	−4.20	0.38
166546	−0.70	0.14	−1.78	0.32	−1.83	0.33	−2.13	0.39	−2.30	0.43	−2.13	0.40		
166734	−0.65	0.02	−1.45	0.05	−2.33	0.07	−2.67	0.08	−2.85	0.09	−3.04	0.10	−3.18	0.10
167128					−2.89	0.88	−3.48	1.05	−4.00	1.21	−5.26	1.58		
167263	−0.54	0.12	−1.67	0.29	−1.79	0.32	−2.38	0.42	−2.38	0.42	−2.67	0.47	−2.79	0.49
167264	−0.84	0.15	−1.88	0.31	−1.96	0.33	−2.64	0.44	−2.64	0.44	−3.08	0.51	−3.00	0.50
167659					−2.49	0.21	−2.87	0.24	−3.05	0.26	−3.23	0.28	−3.64	0.31
167771					−2.77	0.34	−3.27	0.40	−3.50	0.43	−3.56	0.45	−3.97	0.49
167838	−0.66	0.05	−1.51	0.11	−2.39	0.16	−2.86	0.20	−2.97	0.21	−3.20	0.22	−3.09	0.21
167971	−0.60	0.03	−1.41	0.06	−2.37	0.10	−2.76	0.11	−2.94	0.12	−3.13	0.13	−3.15	0.13
168076					−2.58	0.14	−3.11	0.17	−3.28	0.18	−3.17	0.18		
168112					−2.26	0.10	−2.61	0.11	−2.79	0.12	−2.93	0.13	−2.86	0.13
168137					−1.76	0.13	−2.36	0.18	−2.56	0.19				
168476					−2.22	0.50	−2.54	0.57	−3.03	0.68	−3.68	0.81		
169034	−0.96	0.03	−1.75	0.05	−2.49	0.08	−2.72	0.08	−3.16	0.10	−3.39	0.10	−3.32	0.10
169454	−0.89	0.04	−1.66	0.06	−2.32	0.09	−2.76	0.10	−2.94	0.11	−3.20	0.12	−3.41	0.13
169582	−0.66	0.04	−1.54	0.08	−2.38	0.12	−2.82	0.14	−3.08	0.15	−2.94	0.15		
169727					−2.17	0.08	−2.60	0.10	−2.77	0.11	−2.96	0.11		
170235					−2.63	0.36	−3.40	0.46	−4.63	0.63	−6.30	0.85	−7.47	1.00
170580					−2.52	0.33	−2.29	0.31	−2.55	0.35	−3.03	0.41		
170938	−0.79	0.03	−1.70	0.07	−2.39	0.10	−2.79	0.11	−2.96	0.12	−3.20	0.13		
171012	−0.69	0.05	−1.57	0.10	−2.29	0.15	−2.65	0.17	−2.86	0.18	−3.20	0.20	−3.03	0.19
171589	−0.67	0.06	−1.62	0.12	−2.31	0.17	−2.59	0.19	−2.78	0.21	−2.48	0.19		
172252	−0.60	0.03	−1.46	0.07	−2.14	0.10	−2.40	0.11	−2.81	0.13	−3.34	0.16		
172275	−0.68	0.03	−1.51	0.06	−2.19	0.09	−2.46	0.10	−2.66	0.11	−2.78	0.11		
172488	−0.53	0.04	−1.34	0.08	−2.05	0.12	−2.35	0.13	−2.50	0.14	−2.57	0.15		
172694							−4.11	0.45	−5.05	0.55	−5.95	0.65		
173438	−0.63	0.03	−1.41	0.06	−1.98	0.09	−2.40	0.10	−2.44	0.11				
175754	−0.77	0.20	−2.31	0.49	−2.51	0.54	−2.72	0.58	−3.08	0.67	−3.18	0.70		
175876	−0.84	0.20	−2.32	0.50	−2.37	0.53	−2.32	0.54	−2.47	0.59	−2.90	0.67		

Table 3 (continued)

HD	k_R	s_R	k_I	s_I	k_J	s_J	k_H	s_H	k_K	s_K	k_L	s_L	k_M	s_M
177291							−4.45	0.34	−4.85	0.37	−5.25	0.40		
178175	−1.29	0.39	−0.21	0.14	−4.64	1.34	−5.21	1.50	−6.07	1.75	−7.71	2.22		
179406					−2.07	0.28	−2.29	0.31	−2.48	0.34	−2.71	0.37		
183143	−0.84	0.03	−1.69	0.06	−2.25	0.08	−2.70	0.19	−2.83	0.09	−3.12	0.10	−3.14	0.10
183362					−2.57	1.51	−2.86	1.67	−7.43	4.27	−8.29	4.76		
184915	−0.77	0.16	−1.27	0.24	−1.82	0.35	−2.32	0.45	−2.59	0.49	−3.05	0.57	−3.14	0.59
184943	−0.80	0.05	−1.55	0.09	−2.14	0.12	—2.50	0.14	−2.61	0.14	−2.82	0.15	−3.27	0.18
185268							−1.00	0.29	−1.00	0.29	−2.33	0.78		
185859	−0.75	0.05	−1.42	0.09	−1.98	0.13	−2.20	0.15	−2.19	0.15	−2.34	0.16	−1.92	0.13
186660					−1.68	0.32	−1.91	0.36	−2.23	0.42	−2.73	0.51		
186745	−0.78	0.04	−1.50	0.07					−2.59	0.11	−2.72	0.11	−2.85	0.12
186841	−0.86	0.04	−1.49	0.06					−1.96	0.08	−2.14	0.09		
188001					−2.55	0.35	−3.03	0.41	−3.13	0.43	−3.45	0.48	−3.19	0.44
188209	−1.56	0.72	−4.00	1.80	−3.44	1.57	−4.56	2.06	−4.44	2.01	−4.78	2.18	−5.22	2.37
190066	−0.65	0.08	−1.30	0.15	−1.84	0.21	−2.27	0.25	−2.22	0.26	−2.54	0.29		
190429					−2.25	0.22	−2.62	0.25	−2.81	0.27	−2.90	0.28	−2.99	0.29
190603	−0.87	0.05	−1.58	0.09	−1.92	0.11	−2.54	0.14	−2.61	0.15	−2.78	0.16	−2.96	0.17
190918							−2.55	0.26	−2.93	0.29	−3.60	0.36	−4.70	0.47
190944							−3.64	0.34	−3.98	0.37	−5.61	0.52		
191610					−6.00	4.02	−7.00	4.68	−10.83	7.24	−18.50	12.35		
191612					−2.67	0.22	−3.05	0.25	−3.35	0.28				
192639					−1.53	0.11	−1.53	0.11	−1.66	0.13	−1.68	0.14		
193322					−2.08	0.23	−2.31	0.25	−2.41	0.27	−2.33	0.27	−2.31	0.27
193514					−2.59	0.16	−2.81	0.17	−2.96	0.18	−2.96	0.18		
194279									−2.83	0.10	−3.05	0.11	−3.12	0.11
194839									−2.86	0.10	−3.10	0.11	−3.13	0.11
195407							−3.42	0.23	−4.02	0.27	−4.88	0.33		
198478					−2.24	0.17	−2.61	0.20	−2.65	0.20	−2.83	0.21	−2.93	0.22
198931							−2.92	0.14	−3.58	0.17	−3.64	0.18	−5.44	0.26
199216									−2.28	0.15	−2.36	0.15	−2.48	0.16
199356							−3.95	0.38	−4.72	0.45				
199478	−0.87	0.07	−1.57	0.12	−1.87	0.14	−2.25	0.17	−2.30	0.18	−2.51	0.19	−2.59	0.20
199579									−2.00	0.27	−2.88	0.36		
200120					0.30	0.14	−0.20	0.13	−1.35	0.32				

Table 3 (continued)

HD	k_R	s_R	k_I	s_I	k_J	s_J	k_H	s_H	k_K	s_K	k_L	s_L	k_M	s_M
200775					−3.05	0.21	−4.22	0.29	−5.76	0.40	−7.76	0.54	−9.07	0.63
200857									−2.49	0.14	−2.73	0.16	−2.66	0.15
202850					−3.00	0.93	−3.85	1.19	−4.08	1.26	−4.77	1.47	−5.08	1.57
202904					−4.31	1.34	−5.46	1.70	−7.46	2.31	−9.92	3.06		
203064					−2.33	0.40	−2.69	0.46	−2.94	0.51	−3.31	0.58	−3.55	0.62
203532					−2.14	0.31	−2.35	0.33	−2.69	0.39	−2.93	0.42		
203938									−2.77	0.17	−2.91	0.17	−3.06	0.18
204827					−1.93	0.08	−2.18	0.09	−2.43	0.10	−2.70	0.11	−2.50	0.10
206165					−1.95	0.19	−2.57	0.25	−2.55	0.25	−2.86	0.28		
206183							−2.03	0.22	−2.50	0.26				
206267					−2.17	0.18	−2.40	0.20	−2.58	0.21				
206773							−3.53	0.30	−4.47	0.37				
207198					−1.85	0.14			−2.20	0.16				
208501									−2.59	0.14	−2.83	0.15	−2.99	0.16
208682					−2.28	0.52	−2.44	0.57	−4.61	1.04				
209975					−1.91	0.25			−2.64	0.33				
210839					−2.30	0.20	−2.60	0.22	−2.76	0.24	−2.96	0.25	−3.12	0.27
211853					−3.10	0.21	−3.65	0.25	−4.13	0.28	−4.87	0.33		
212044							−3.24	0.46	−4.17	0.59				
212076					−3.00	1.75	−2.57	1.51	−2.86	1.70	−5.86	3.38	−12.43	7.12
212593					−2.55	0.94	−3.64	1.33	−3.36	1.23	−3.64	1.33	−3.91	1.43
214680					−1.47	0.90	−3.60	1.97	−1.87	1.15	−2.40	1.46	−2.40	1.46
216411									−2.78	0.14	−2.99	0.16	−3.26	0.17
216898									−2.43	0.13	−2.63	0.14		
217050					−5.00	1.83	−6.00	2.19	−8.64	3.15	−12.36	4.51	−17.00	6.19
217086					−2.33	0.11	−2.59	0.12	−2.76	0.13	−2.88	0.13	−3.16	0.15
217101					−2.25	1.17	−2.63	1.35	−2.63	1.38	−3.13	1.62		
217543							−1.73	0.98	−1.87	1.09				
218342									−2.52	0.16	−2.72	0.17		
218537					−2.44	0.63			−3.38	0.87	−2.38	0.63	−2.50	0.66
219287	−0.84	0.03	−1.51	0.05					−2.85	0.09	−2.93	0.09		
220116					−1.74	0.09	−2.02	0.11	−2.25	0.12				
223924					−1.96	0.34	−1.96	0.34	−1.54	0.29				
224599					−2.20	0.14	−2.62	0.17	−3.09	0.19				

Table 3 (continued)

HD, BD	k_R	s_R	k_I	s_I	k_J	s_J	k_H	s_H	k_K	s_K	k_L	s_L	k_M	s_M
224905					−2.08	0.23	−2.38	0.27	−3.14	0.35				
225094					−2.40	0.22	−2.87	0.26	−2.89	0.26	−3.22	0.29		
225146									−2.52	0.18	−2.52	0.18		
225160									−2.95	0.22	−3.51	0.26		
225985							−3.46	0.43	−4.36	0.54				
226868					−2.39	0.10	−2.71	0.11	−2.90	0.12	−3.08	0.12	−3.33	0.13
228712									−2.90	0.09	−3.08	0.10	−3.08	0.10
228779					−2.09	0.06	−2.39	0.07	−2.52	0.07	−2.63	0.07	−2.70	0.07
229033									−2.53	0.12	−2.46	0.11		
236689							−2.24	0.19	−2.76	0.23				
236923					−2.24	0.15			−2.71	0.18				
249845							−2.24	0.37	−2.52	0.42				
250028							−2.53	0.22	−3.45	0.30				
254577									−2.72	0.11	−2.92	0.12		
259597							−3.85	0.46	−4.18	0.50				
262013					−4.00	3.24	−4.80	3.87	−5.40	4.00				
−14 5029					−2.21	0.05	−2.63	0.05	−2.78	0.05	−3.01	0.05	−3.05	0.05
−12 5008					−2.16	0.05	−2.57	0.05	−2.70	0.05	−2.94	0.06		
+40 4220					−2.29	0.05	−2.63	0.06	−2.82	0.06	−3.03	0.07	−3.11	0.07
+40 4227					−2.27	0.02	−2.64	0.02	−2.79	0.02	−2.94	0.02	−3.05	0.02
+41 4064							−3.26	0.04	−3.51	0.04				
+54 490					−2.27	0.30			−2.74	0.30				
+56 473					−2.17	0.20	−2.80	0.25	−3.26	0.29				
+56 586					−3.76	0.28	−4.09	0.31	−4.26	0.32				
+56 624							−2.84	0.23	−3.35	0.27				
+60 2522							−2.82	0.16	−3.14	0.18	−2.97	0.17	−6.28	0.35
+61 40							−2.54	0.15	−2.86	0.17				
+62 2210					−2.12	0.07	−2.47	0.09	−2.71	0.09	−2.91	0.10