**Table 7** Stellar lifetimes $\tau(m_*)$ given in Gyrs = $10^9$ yrs for two different initial metallicities. $\tau_1$: Z = $Z_\odot$ and $\tau_2$: Z = 0.05 $Z_\odot$

| $m_*$ | $\tau_1$ | $\tau_2$ | $m_*$ | $\tau_1$ | $\tau_2$ | $m_*$ | $\tau_1$ | $\tau_2$ |
|---|---|---|---|---|---|---|---|---|
| .15 | 20.0 | 20.0 | 1.7 | 1.856 | 1.305 | 15 | $1.27^{-2}$ | $1.45^{-2}$ |
| .30 | 20.0 | 20.0 | 2.0 | 1.412 | 1.029 | 18 | $1.02^{-2}$ | $1.18^{-2}$ |
| .45 | 20.0 | 20.0 | 2.5 | 0.757 | 0.571 | 20 | $8.96^{-3}$ | $1.03^{-2}$ |
| .60 | 20.0 | 20.0 | 3.0 | 0.441 | 0.341 | 22 | $8.20^{-3}$ | $9.20^{-3}$ |
| .70 | 20.0 | 20.0 | 4.0 | 0.194 | 0.166 | 25 | $7.05^{-3}$ | $7.85^{-3}$ |
| .80 | 15.2 | 15.2 | 5.0 | 0.108 | 0.100 | 30 | $6.20^{-3}$ | $7.00^{-3}$ |
| .90 | 13.0 | 10.0 | 7.0 | 0.048 | 0.050 | 35 | $5.55^{-3}$ | $6.20^{-3}$ |
| 1.00 | 11.4 | 6.9 | 8.0 | 0.029 | 0.032 | 40 | $4.79^{-3}$ | $5.34^{-3}$ |
| 1.30 | 5.0 | 3.5 | 12.0 | 0.018 | 0.020 | | | |

**Table 8** SN II remnants of various progenitor masses $m_*$ , five different initial metallicities $Z$ and three explosion models (A, B and C) from TABLE 3 in Woosley & Weaver (1995)

| $m_*$ | 1.0 $Z_\odot$ | 0.1 $Z_\odot$ | 0.01 $Z_\odot$ | $10^{-4}$ $Z_\odot$ | 0.0 $Z_\odot$ |
|---|---|---|---|---|---|
| 12 | 1.32 | 1.38 | 1.40 | 1.28 | 1.35 |
| 13 | 1.46 | 1.31 | 1.44 | 1.44 | 1.28 |
| 15 | 1.43 | 1.49 | 1.56 | 1.63 | 1.53 |
| 18 | 1.76 | 1.69 | 1.58 | 1.61 | 3.40 |
| 20 | 2.06 | 1.97 | 1.98 | 1.97 | 4.12 |
| 22 | 2.02 | 2.12 | 2.04 | 2.01 | 1.49 |
| 25 | 2.07 | 1.99 | 1.87 | 1.87 | 6.36 |
| 30 | 4.24 | 2.76 | 3.22 | 2.89 | 8.17 |
| 30* | 1.94 | 2.01 | 2.21 | 2.08 | 1.54 |
| 35 | 7.38 | 6.69 | 5.41 | 10.10 | 12.80 |
| 35* | 3.86 | 3.39 | 2.42 | 3.03 | 7.62 |
| 35** | 2.03 | 2.02 | 1.96 | 1.97 | 1.85 |
| 40 | 10.34 | 9.13 | 9.08 | 13.70 | 16.60 |
| 40* | 5.45 | 4.45 | 4.42 | 4.09 | 12.20 |
| 40** | 1.98 | 2.01 | 2.02 | 2.03 | 1.99 |

Notes: *model B, **model C

**Table 9** Remnants for different stellar masses ($m_*$) and initial metallicities (Z = 0.02 = **1.0** $Z_\odot$, Z = 0.004 = **0.2** $Z_\odot$ and Z = 0.001 = **0.05** $Z_\odot$) from van den Hoek & Groenewegen (1997)

| $m_*$ | 1.0 | $m_*$ | 1.0 | 0.2 | 0.05 | $m_*$ | 1.0 | 0.2 | 0.05 |
|---|---|---|---|---|---|---|---|---|---|
| 0.15 | 0.00 | 0.9 | 0.57 | 0.58 | 0.56 | 2.5 | 0.60 | 0.64 | 0.74 |
| 0.30 | 0.00 | 1.0 | 0.58 | 0.58 | 0.57 | 3.0 | 0.62 | 0.66 | 0.82 |
| 0.45 | 0.40 | 1.3 | 0.59 | 0.59 | 0.59 | 4.0 | 0.79 | 0.91 | 0.91 |
| 0.60 | 0.41 | 1.5 | 0.59 | 0.60 | 0.62 | 5.0 | 0.92 | 0.98 | 0.98 |
| 0.70 | 0.42 | 1.7 | 0.59 | 0.60 | 0.64 | 7.0 | 1.07 | 1.12 | 1.13 |
| 0.80 | 0.43 | 2.0 | 0.60 | 0.62 | 0.68 | 8.0 | 1.15 | 1.20 | 1.84 |

**Table 5** SN II yields calculated by Woosley & Weaver (1995) for models A, B and C (see text) and two different metallicities Z = $Z_\odot$ and Z = 0.01 $Z_\odot$. In the case of $m_* = 25\ m_\odot$ yields calculated from model A for all five different metallicities Z = $Z_\odot$, Z = 0.1 $Z_\odot$, Z = 0.01 $Z_\odot$, Z = $10^{-4}$ $Z_\odot$ and Z = 0 $Z_\odot$ are given. $E_{tot}$ is the total ejected mass as given by Woosley & Weaver (1995). $\Delta$ indicates the difference (in %) between $E_{tot}$ and the sum of ejecta given in this table for elements H, He, ..., Mn.

| $m_*$ | H | He | C | N | O | Mg | Al | Si | S | Ar | Ca | Fe | Ni | Zn | Cr | Mn | $E_{tot}$ | $\Delta$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Z = $Z_\odot$ | | | | | | | | | | | | | | | | | | |
| 12 | 5.96 | 4.11 | .082 | .036 | .219 | .011 | .001 | .093 | .079 | .027 | .015 | .059 | .010 | .0012 | .0010 | .0005 | 10.74 | .33 |
| 13 | 6.32 | 4.51 | .115 | .047 | .275 | .023 | .002 | .062 | .028 | .005 | .004 | .151 | .018 | .0023 | .0014 | .0007 | 11.62 | .49 |
| 15 | 6.98 | 5.24 | .162 | .054 | .685 | .040 | .005 | .116 | .066 | .015 | .011 | .138 | .012 | .0014 | .0021 | .0011 | 13.65 | .90 |
| 18 | 7.89 | 6.28 | .249 | .057 | 1.146 | .077 | .010 | .146 | .059 | .010 | .007 | .093 | .006 | .0005 | .0023 | .0012 | 16.34 | 1.87 |
| 20 | 8.24 | 6.72 | .214 | .060 | 1.953 | .049 | .004 | .300 | .176 | .037 | .015 | .120 | .008 | .0008 | .0036 | .0017 | 18.04 | .76 |
| 22 | 8.79 | 7.51 | .242 | .067 | 2.385 | .062 | .008 | .382 | .190 | .036 | .018 | .241 | .019 | .0019 | .0044 | .0021 | 20.09 | .64 |
| 25 | 9.40 | 8.64 | .324 | .080 | 3.254 | .162 | .025 | .339 | .149 | .027 | .017 | .169 | .013 | .0015 | .0031 | .0031 | 23.07 | 2.01 |
| 30 | 10.50 | 10.40 | .288 | .104 | 3.652 | .270 | .040 | .141 | .016 | .002 | .001 | .029 | .004 | .0015 | .0004 | .0003 | 25.90 | 1.74 |
| 30* | 10.50 | 10.40 | .292 | .104 | 4.882 | .346 | .051 | .384 | .108 | .019 | .013 | .481 | .053 | .0042 | .0047 | .0026 | 28.16 | 1.83 |
| 35 | 11.50 | 11.90 | .303 | .125 | 3.072 | .188 | .030 | .059 | .012 | .002 | .002 | .032 | .004 | .0013 | .0005 | .0004 | 27.82 | 2.12 |
| 35* | 11.50 | 11.90 | .322 | .125 | 5.822 | .392 | .064 | .166 | .019 | .003 | .002 | .032 | .006 | .0026 | .0005 | .0004 | 31.33 | 3.11 |
| 35** | 11.50 | 12.00 | .322 | .125 | 6.362 | .407 | .066 | .494 | .179 | .032 | .024 | .625 | .076 | .0059 | .0062 | .0060 | 33.23 | 3.01 |
| 40 | 11.10 | 13.00 | .315 | .141 | 2.361 | .124 | .021 | .031 | .011 | .002 | .002 | .032 | .003 | .0010 | .0005 | .0004 | 27.67 | 1.90 |
| 40* | 11.10 | 13.00 | .365 | .141 | 6.031 | .363 | .065 | .080 | .013 | .003 | .002 | .033 | .006 | .0027 | .0005 | .0004 | 32.55 | 4.13 |
| 40** | 11.10 | 13.00 | .370 | .141 | 7.631 | .449 | .077 | .621 | .248 | .043 | .032 | .760 | .077 | .0076 | .0100 | .0051 | 35.98 | 3.91 |
| Z = 0.1 $Z_\odot$ | | | | | | | | | | | | | | | | | | |
| 12 | 6.26 | 3.91 | .089 | .003 | .145 | .006 | .000 | .030 | .014 | .003 | .003 | .178 | .016 | .0022 | .0012 | .0004 | 10.68 | .17 |
| 13 | 6.67 | 4.30 | .109 | .004 | .290 | .018 | .001 | .066 | .032 | .006 | .005 | .186 | .021 | .0026 | .0018 | .0009 | 11.76 | .39 |
| 15 | 7.42 | 5.04 | .142 | .005 | .555 | .023 | .001 | .072 | .034 | .007 | .006 | .197 | .010 | .0018 | .0018 | .0006 | 13.60 | .60 |
| 18 | 8.36 | 6.18 | .225 | .006 | .995 | .080 | .004 | .130 | .049 | .009 | .008 | .140 | .005 | .0009 | .0023 | .0007 | 16.41 | 1.31 |
| 20 | 8.95 | 6.70 | .246 | .006 | 1.520 | .054 | .003 | .234 | .131 | .026 | .019 | .126 | .003 | .0002 | .0038 | .0008 | 18.13 | .59 |
| 22 | 9.44 | 7.42 | .232 | .007 | 2.120 | .019 | .002 | .329 | .189 | .042 | .023 | .128 | .003 | .0001 | .0045 | .0009 | 20.00 | .20 |
| 25 | 10.30 | 8.60 | .267 | .009 | 2.900 | .032 | .003 | .399 | .223 | .054 | .022 | .207 | .011 | .0005 | .0036 | .0010 | 23.09 | .24 |
| 30 | 11.40 | 10.50 | .304 | .011 | 4.110 | .328 | .017 | .079 | .003 | .000 | .000 | .002 | .000 | .0001 | .0000 | .0000 | 27.40 | 2.36 |
| 30* | 11.40 | 10.50 | .304 | .011 | 4.420 | .344 | .018 | .214 | .065 | .013 | .011 | .185 | .009 | .0003 | .0028 | .0010 | 28.14 | 2.28 |
| 35 | 12.40 | 12.00 | .319 | .013 | 3.100 | .152 | .008 | .027 | .002 | .000 | .000 | .002 | .000 | .0001 | .0000 | .0000 | 28.53 | 1.77 |
| 35* | 12.40 | 12.00 | .334 | .013 | 5.780 | .355 | .019 | .115 | .006 | .001 | .000 | .002 | .000 | .0001 | .0000 | .0000 | 31.84 | 2.56 |
| 35** | 12.40 | 12.10 | .333 | .013 | 5.980 | .358 | .020 | .366 | .149 | .029 | .027 | .616 | .041 | .0024 | .0087 | .0022 | 33.26 | 2.45 |
| 40 | 13.30 | 14.00 | .337 | .016 | 2.720 | .084 | .005 | .009 | .002 | .000 | .000 | .002 | .000 | .0001 | .0000 | .0000 | 31.09 | 1.98 |
| 40* | 13.30 | 14.00 | .399 | .016 | 6.250 | .282 | .016 | .030 | .002 | .000 | .000 | .002 | .000 | .0002 | .0000 | .0000 | 35.78 | 4.14 |
| 40** | 13.30 | 14.00 | .400 | .016 | 7.150 | .342 | .019 | .426 | .197 | .039 | .035 | .680 | .049 | .0019 | .0068 | .0055 | 38.16 | 3.92 |
| Z = 0.01 $Z_\odot$ | | | | | | | | | | | | | | | | | | |
| 12 | 6.30 | 3.90 | .090 | .000 | .142 | .006 | .000 | .031 | .014 | .003 | .003 | .152 | .012 | .0016 | .0009 | .0003 | 10.67 | .13 |
| 13 | 6.71 | 4.28 | .109 | .000 | .210 | .011 | .000 | .042 | .022 | .005 | .005 | .191 | .012 | .0020 | .0019 | .0004 | 11.63 | .25 |
| 15 | 7.49 | 5.09 | .149 | .001 | .423 | .022 | .001 | .074 | .035 | .007 | .006 | .172 | .011 | .0013 | .0020 | .0005 | 13.53 | .34 |
| 18 | 8.57 | 6.25 | .194 | .001 | .952 | .037 | .001 | .101 | .056 | .012 | .010 | .136 | .004 | .0005 | .0025 | .0006 | 16.52 | 1.16 |
| 20 | 9.07 | 6.62 | .208 | .001 | 1.620 | .017 | .001 | .245 | .150 | .038 | .019 | .075 | .001 | .0000 | .0035 | .0006 | 18.13 | .33 |
| 22 | 9.67 | 7.50 | .248 | .001 | 1.940 | .058 | .003 | .314 | .150 | .029 | .019 | .100 | .002 | .0000 | .0040 | .0006 | 20.08 | .20 |
| 25 | 10.40 | 8.76 | .279 | .001 | 2.830 | .040 | .003 | .388 | .208 | .051 | .020 | .188 | .011 | .0004 | .0028 | .0008 | 23.24 | .24 |
| 30 | 11.60 | 10.30 | .315 | .001 | 3.980 | .257 | .009 | .119 | .003 | .000 | .000 | .000 | .000 | .0000 | .0000 | .0000 | 26.95 | 1.36 |
| 30* | 11.60 | 10.30 | .315 | .001 | 4.450 | .277 | .010 | .312 | .099 | .019 | .018 | .177 | .006 | .0002 | .0034 | .0013 | 27.95 | 1.29 |
| 35 | 12.80 | 12.00 | .343 | .002 | 3.670 | .183 | .005 | .019 | .000 | .000 | .000 | .000 | .000 | .0000 | .0000 | .0000 | 29.74 | 2.41 |
| 35* | 12.80 | 12.00 | .353 | .002 | 5.650 | .335 | .010 | .271 | .112 | .022 | .020 | .182 | .005 | .0001 | .0039 | .0027 | 32.72 | 2.91 |
| 35** | 12.80 | 12.10 | .352 | .002 | 5.630 | .333 | .010 | .276 | .114 | .023 | .021 | .590 | .032 | .0013 | .0065 | .0015 | 33.24 | 2.85 |
| 40 | 13.70 | 13.90 | .340 | .002 | 2.610 | .076 | .002 | .004 | .000 | .000 | .000 | .000 | .000 | .0000 | .0000 | .0000 | 31.17 | 1.72 |
| 40* | 13.70 | 13.90 | .389 | .002 | 6.190 | .288 | .008 | .029 | .000 | .000 | .000 | .000 | .000 | .0000 | .0000 | .0000 | 35.84 | 3.72 |
| 40** | 13.70 | 13.90 | .389 | .002 | 7.060 | .344 | .010 | .416 | .198 | .040 | .037 | .700 | .043 | .0016 | .0098 | .0026 | 38.18 | 3.47 |

**Table 5** continued

| $m_*$ | H | He | C | N | O | Mg | Al | Si | S | Ar | Ca | Fe | Ni | Zn | Cr | Mn | $E_{tot}$ | $\Delta$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Z = $10^{-4}$ $Z_\odot$ | | | | | | | | | | | | | | | | | | |
| 12 | 6.39 | 3.91 | .074 | .000 | .146 | .009 | .000 | .060 | .048 | .012 | .012 | .055 | .003 | .0004 | .0010 | .0002 | 10.78 | .56 |
| 13 | 6.82 | 4.31 | .109 | .000 | .181 | .008 | .000 | .052 | .028 | .006 | .005 | .090 | .004 | .0004 | .0016 | .0003 | 11.63 | .14 |
| 15 | 7.64 | 5.08 | .143 | .000 | .383 | .018 | .001 | .053 | .024 | .005 | .004 | .064 | .003 | .0003 | .0013 | .0002 | 13.45 | .24 |
| 18 | 8.80 | 6.12 | .219 | .000 | .766 | .058 | .002 | .098 | .038 | .007 | .006 | .162 | .008 | .0008 | .0019 | .0006 | 16.50 | 1.29 |
| 20 | 9.22 | 6.58 | .215 | .000 | 1.510 | .017 | .001 | .242 | .143 | .034 | .019 | .091 | .001 | .0000 | .0039 | .0006 | 18.14 | .34 |
| 22 | 9.95 | 7.42 | .273 | .000 | 1.730 | .033 | .001 | .280 | .167 | .036 | .023 | .124 | .003 | .0001 | .0040 | .0006 | 20.11 | .32 |
| 25 | 10.70 | 8.53 | .295 | .000 | 2.780 | .096 | .004 | .362 | .164 | .031 | .019 | .204 | .011 | .0004 | .0033 | .0008 | 23.29 | .38 |
| 30 | 12.00 | 10.10 | .333 | .000 | 4.070 | .254 | .008 | .098 | .003 | .000 | .000 | .000 | .000 | .0000 | .0000 | .0000 | 27.33 | 1.70 |
| 30* | 12.00 | 10.10 | .333 | .000 | 4.340 | .264 | .008 | .264 | .089 | .018 | .016 | .210 | .008 | .0003 | .0034 | .0006 | 28.11 | 1.62 |
| 35* | 13.20 | 11.80 | .358 | .000 | 5.550 | .330 | .009 | .097 | .003 | .000 | .000 | .000 | .000 | .0000 | .0000 | .0000 | 32.18 | 2.59 |
| 35** | 13.20 | 11.90 | .358 | .000 | 5.620 | .328 | .009 | .272 | .112 | .023 | .022 | .583 | .031 | .0014 | .0067 | .0014 | 33.30 | 2.50 |
| 35 | 13.20 | 11.70 | .164 | .000 | .026 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .0000 | .0000 | .0000 | 25.09 | .00 |
| 40 | 14.30 | 12.10 | .080 | .000 | .007 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .0000 | .0000 | .0000 | 26.49 | .01 |
| 40* | 14.30 | 13.60 | .420 | .000 | 6.200 | .284 | .007 | .036 | .001 | .000 | .000 | .000 | .000 | .0000 | .0000 | .0000 | 36.11 | 3.49 |
| 40** | 14.30 | 13.60 | .420 | .000 | 6.850 | .322 | .008 | .370 | .176 | .036 | .034 | .692 | .043 | .0019 | .0097 | .0023 | 38.12 | 3.29 |
| Z = 0 $Z_\odot$ | | | | | | | | | | | | | | | | | | |
| 12 | 6.39 | 4.08 | .043 | .000 | .067 | .004 | .000 | .025 | .009 | .002 | .001 | .081 | .009 | .0006 | .0007 | .0002 | 10.72 | .07 |
| 13 | 6.83 | 4.42 | .068 | .000 | .137 | .015 | .001 | .034 | .014 | .003 | .003 | .191 | .035 | .0029 | .0013 | .0006 | 11.79 | .29 |
| 15 | 7.69 | 4.90 | .145 | .000 | .400 | .034 | .001 | .069 | .026 | .005 | .004 | .161 | .014 | .0007 | .0011 | .0006 | 13.55 | .73 |
| 18 | 8.85 | 5.70 | .110 | .000 | .030 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .0000 | .0000 | .0000 | 14.69 | .00 |
| 20 | 9.56 | 6.32 | .090 | .000 | .009 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .0000 | .0000 | .0000 | 15.98 | .01 |
| 22 | 10.20 | 7.10 | .277 | .000 | 1.850 | .095 | .002 | .166 | .110 | .025 | .024 | .169 | .011 | .0007 | .0027 | .0008 | 20.60 | 2.75 |
| 25 | 11.40 | 7.33 | .083 | .000 | .010 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .0000 | .0000 | .0000 | 18.82 | -.02 |
| 30 | 12.80 | 9.11 | .109 | .004 | .027 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .0000 | .0000 | .0000 | 22.05 | .00 |
| 30* | 12.80 | 9.30 | .348 | .004 | 4.350 | .249 | .006 | .124 | .046 | .009 | .009 | .325 | .041 | .0031 | .0036 | .0008 | 28.67 | 3.67 |
| 35 | 14.20 | 8.17 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .0000 | .0000 | .0000 | 22.37 | .00 |
| 35* | 14.30 | 10.60 | .349 | .000 | 1.920 | .048 | .001 | .002 | .000 | .000 | .000 | .000 | .000 | .0000 | .0000 | .0000 | 27.60 | 1.38 |
| 35** | 14.30 | 10.70 | .404 | .000 | 5.580 | .239 | .005 | .211 | .090 | .018 | .018 | .578 | .032 | .0011 | .0060 | .0014 | 33.42 | 3.70 |
| 40 | 15.00 | 8.63 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .0000 | .0000 | .0000 | 23.63 | .00 |
| 40* | 15.20 | 12.00 | .285 | .000 | .578 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .0000 | .0000 | .0000 | 28.07 | .02 |
| 40** | 15.20 | 12.00 | .482 | .000 | 7.260 | .281 | .006 | .344 | .163 | .033 | .031 | .725 | .041 | .0025 | .0085 | .0018 | 38.17 | 4.17 |
| model A | | | | | | | | | | | | | | | | | | |
| 25 | 9.40 | 8.64 | .324 | .080 | 3.254 | .162 | .025 | .339 | .149 | .027 | .017 | .169 | .013 | .0015 | .0031 | .0031 | 23.07 | 2.01 |
| 25 | 10.30 | 8.60 | .267 | .009 | 2.900 | .032 | .003 | .399 | .223 | .054 | .022 | .207 | .011 | .0005 | .0036 | .0010 | 23.09 | .24 |
| 25 | 10.40 | 8.76 | .279 | .001 | 2.830 | .040 | .003 | .388 | .208 | .051 | .020 | .188 | .011 | .0004 | .0028 | .0008 | 23.24 | .24 |
| 25 | 10.70 | 8.53 | .295 | .000 | 2.780 | .096 | .004 | .362 | .164 | .031 | .019 | .204 | .011 | .0004 | .0033 | .0008 | 23.29 | .38 |
| 25 | 11.40 | 7.33 | .083 | .000 | .010 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .0000 | .0000 | .0000 | 18.82 | -.02 |
| SN Ia*** | | | | | | | | | | | | | | | | | | |
| | .00 | .00 | .048 | .000 | .143 | .009 | .001 | .153 | .086 | .016 | .012 | .744 | .141 | .0000 | .0064 | .0082 | | |

Notes: *model B, **model C, *** SN Ia data are from Nomoto *et al.* (1997) deflagration model W7

**Table 6** stellar yields for various stellar masses ($m_*$) and three different initial metallicities Z = 1.0 $Z_\odot$ (= 0.02), Z = 0.2 $Z_\odot$ (= 0.004) and Z = 0.05 $Z_\odot$ (= 0.001) from van den Hoek & Groenewegen (1997)

| $m_*$ | H | H* | H** | He | He* | He** | C | C* | C** | N | N* | N** | O | O* | O** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.9 | -0.089 | -0.110 | -0.126 | 0.089 | 0.110 | 0.126 | -0.003 | -0.001 | 0.000 | 0.004 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1.0 | -0.208 | -0.161 | -0.148 | 0.186 | 0.152 | 0.148 | -0.001 | 0.007 | 0.000 | 0.008 | 0.001 | 0.000 | 0.010 | 0.001 | 0.000 |
| 1.3 | -0.382 | -0.264 | -0.317 | 0.334 | 0.239 | 0.277 | 0.000 | 0.022 | 0.036 | 0.016 | 0.002 | 0.000 | 0.024 | 0.002 | 0.003 |
| 1.5 | -0.273 | -0.323 | -0.367 | 0.240 | 0.283 | 0.315 | 0.013 | 0.033 | 0.048 | 0.015 | 0.003 | 0.001 | 0.006 | 0.003 | 0.004 |
| 1.7 | -0.284 | -0.413 | -0.399 | 0.243 | 0.345 | 0.335 | 0.023 | 0.060 | 0.058 | 0.017 | 0.004 | 0.001 | 0.003 | 0.005 | 0.005 |
| 2.0 | -0.480 | -0.656 | -0.590 | 0.400 | 0.538 | 0.484 | 0.048 | 0.099 | 0.092 | 0.025 | 0.007 | 0.002 | 0.002 | 0.007 | 0.008 |
| 2.5 | -0.830 | -0.945 | -0.610 | 0.690 | 0.772 | 0.470 | 0.102 | 0.148 | 0.123 | 0.038 | 0.010 | 0.002 | -0.001 | 0.010 | 0.011 |
| 3.0 | -1.197 | -1.206 | -0.609 | 0.987 | 0.954 | 0.447 | 0.155 | 0.222 | 0.141 | 0.052 | 0.013 | 0.002 | 0.000 | 0.015 | 0.013 |
| 4.0 | -1.504 | -1.028 | -1.072 | 1.252 | 0.796 | 0.808 | 0.188 | 0.044 | 0.053 | 0.073 | 0.179 | 0.189 | -0.009 | 0.011 | 0.017 |
| 5.0 | -1.885 | -1.585 | -1.555 | 1.570 | 1.235 | 1.170 | -0.030 | 0.019 | 0.032 | 0.364 | 0.320 | 0.329 | -0.015 | 0.013 | 0.021 |
| 7.0 | -3.052 | -2.597 | -2.884 | 2.506 | 1.974 | 2.212 | -0.043 | 0.036 | 0.058 | 0.683 | 0.601 | 0.608 | -0.090 | -0.018 | 0.004 |
| 8.0 | -3.792 | -3.376 | -3.056 | 3.120 | 2.608 | 2.360 | -0.060 | 0.037 | 0.055 | 0.864 | 0.751 | 0.635 | -0.128 | -0.026 | 0.008 |

Notes: *Z =0.2 $Z_\odot$, **Z =0.05 $Z_\odot$