

ERRATUM: “Ne ISOTOPES IN INDIVIDUAL PRESOLAR GRAPHITE GRAINS FROM THE MURCHISON METEORITE TOGETHER WITH He, C, O, Mg–Al ISOTOPIC ANALYSES AS TRACERS OF THEIR ORIGINS” (2009, *ApJ*, 701, 1415)

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The detection limits during Session 3 for <sup>20</sup>Ne and <sup>21</sup>Ne were interchanged. The error occurred during preparation of the manuscript, not during the laboratory experiment. The upper limits of <sup>20</sup>Ne/<sup>22</sup>Ne ratios from Session 3 are based on the <sup>20</sup>Ne detection limits. The corrected Tables 2 and 3 are given below. No major conclusion in this work is affected by the revised upper limits for <sup>20</sup>Ne/<sup>22</sup>Ne.

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**Table 2**  
 Isotope Ratios of KFB1g Graphite Grains for Which Noble Gases have been Measured and their Most Likely Stellar Sources

| Grain KFB1g-           | Gas-rich?                            | $\phi$ ( $\mu\text{m}$ ) | <sup>12</sup> C/ <sup>13</sup> C | <sup>20</sup> Ne/ <sup>22</sup> Ne | $\delta^{25}\text{Mg}$ (‰) | ( <sup>26</sup> Al/ <sup>27</sup> Al) <sub>inferred</sub> ( $10^{-3}$ ) | <sup>16</sup> O/ <sup>18</sup> O | Putative Stellar Source                     |
|------------------------|--------------------------------------|--------------------------|----------------------------------|------------------------------------|----------------------------|---|----------------------------------|---|
| 64-1 <sup>b</sup>      | <sup>22</sup> Ne                     | 5.18                     | 485.7 ± 4.4                      | ≤ 0.08                             |                            |   | 503.2 ± 21.2                     | Supernova                                   |
| 34-4 <sup>a</sup>      | <sup>20,22</sup> Ne, <sup>4</sup> He | 2.17                     | 98.2 ± 0.8                       | 0.032 ± 0.018                      | 30 ± 22                    | 6.34 ± 0.89   | 488.8 ± 20.8                     | AGB star, or less likely supernova          |
| 45-1 <sup>b</sup>      | <sup>20,22</sup> Ne                  | 3.73                     | 15.9 ± 0.1                       | 1.7 ± 1.0                          | −75 ± 33                   | ≤0.56   | 495.2 ± 18.8                     | Supernova?                                  |
| 26-2 <sup>a</sup>      |                                      | 3.65                     | 28.6 ± 0.2                       |                                    | 24 ± 29                    | 2.64 ± 1.25   | 301.8 ± 9.3                      | Supernova?                                  |
| 15-2 <sup>a</sup>      | <sup>22</sup> Ne                     | 6.18                     | 10.4 ± 0.1                       | ≤ 8.6                              | −15 ± 22                   | 8.17 ± 0.86   | 512.6 ± 18.6                     | Born-again AGB star? Supernova?             |
| 10-1 <sup>a</sup>      |                                      | 1.94                     | 13.7 ± 0.1                       |                                    | −98 ± 29                   | ≤0.076  | 508.4 ± 20.5                     | J-type C-star?                              |
| 43-2 <sup>b</sup>      | <sup>22</sup> Ne                     | 2.36                     | 9.0 ± 0.1                        | ≤ 1.1                              | 35 ± 123                   | ≤2.0  | 529.4 ± 25.3                     | Born-again AGB star or supernova?           |
| 73-3 <sup>b</sup>      | <sup>22</sup> Ne                     | 1.88                     | 8.6 ± 0.1                        | ≤ 6.7                              | 39 ± 125                   | ≤3.7  | 540.7 ± 33.8                     | Born-again AGB star, CO nova, or Supernova? |
| 53-2 <sup>b</sup>      |                                      | 3.31                     | 4.7 ± 0.0                        |                                    | 101 ± 107                  | ≤0.98   | 510.5 ± 26.5                     | J-type C-star or CO nova?                   |
| 56-1 <sup>b</sup>      |                                      | 3.62                     | 4.0 ± 0.0                        |                                    |                            |   | 491.0 ± 17.6                     | J-type C-star or CO nova?                   |
| 57-3 <sup>b</sup>      |                                      | 2.21                     | 5.0 ± 0.0                        |                                    |                            |   | 527.7 ± 17.9                     | J-type C-star or CO nova?                   |
| 26-3 <sup>a</sup>      | <sup>22</sup> Ne                     | 2.21                     | 1305.1 ± 14.7                    | ≤ 8.6                              | 16 ± 27                    | 3.22 ± 0.89   | 512.4 ± 21.0                     | AGB star or supernova?                      |
| 53-4 <sup>b</sup>      | <sup>22</sup> Ne                     | 2.24                     | 246.1 ± 2.3                      | ≤ 8.4                              | −9 ± 23                    | 1.38 ± 0.53   | 510.8 ± 33.8                     |   |
| 64-6 <sup>b</sup>      | <sup>22</sup> Ne                     | 3.18                     | 623.3 ± 5.8                      | ≤ 4.8                              |                            |   | 526.8 ± 21.2                     |   |
| 27-5 <sup>a</sup>      | <sup>22</sup> Ne                     | 1.78                     | 693.4 ± 8.0                      | ≤ 7.0                              | −104 ± 27                  | 542.5 ± 33.6  |                                  |   |
| 37-1 <sup>a</sup>      | <sup>22</sup> Ne                     | 3.82                     | 857.1 ± 8.6                      | ≤ 8.6                              | 6 ± 47                     | ≤2.8  | 510.3 ± 27.9                     |   |
| 07-1 <sup>a</sup>      |                                      | 4.37                     | 341.9 ± 3.0                      |                                    |                            |   | 529.1 ± 21.2                     |   |
| 12/22-1/1 <sup>a</sup> |                                      | 1.75                     | 201.3 ± 1.7                      |                                    | −26 ± 22                   | ≤0.23   | 525.2 ± 19.6                     |   |
| 24-2 <sup>a</sup>      |                                      | 1.97                     | 512.3 ± 4.9                      |                                    | 84 ± 53                    | 3.92 ± 1.49   | 531.9 ± 25.3                     |   |
| 25-3 <sup>a</sup>      |                                      | 2.58                     | 965.3 ± 9.7                      |                                    | 33 ± 22                    | 0.16 ± 0.02   | 499.2 ± 24.4                     |   |
| 27-1 <sup>a</sup>      |                                      | 2.75                     | 87.0 ± 0.7                       |                                    |                            |   | 486.2 ± 18.3                     |   |
| 30-1 <sup>a</sup>      |                                      | 2.58                     | 842.6 ± 8.7                      |                                    | −16 ± 24                   | 5.55 ± 1.48   | 553.7 ± 35.2                     |   |
| 30-2 <sup>a</sup>      |                                      | 1.96                     | 502.0 ± 4.7                      |                                    |                            |   | 479.3 ± 20.9                     |   |
| 31-1 <sup>a</sup>      |                                      | 3.16                     | 118.7 ± 1.0                      |                                    |                            |   | 513.7 ± 21.0                     |   |
| 31-2 <sup>a</sup>      |                                      | 2.24                     | 1064.1 ± 11.0                    |                                    |                            |   | 527.1 ± 33.4                     |   |
| 32-1 <sup>a</sup>      |                                      | 3.05                     | 212.1 ± 1.8                      |                                    |                            |   | 506.1 ± 19.2                     |   |
| 32-2/3 <sup>a</sup>    |                                      | 1.89                     | 98.3 ± 0.8                       |                                    | 46 ± 25                    | 1.27 ± 0.34   | 478.4 ± 26.2                     |   |
| 40-1 <sup>b</sup>      |                                      | 2.65                     | 1028.8 ± 10.4                    |                                    |                            |   | 525.2 ± 29.3                     |   |
| 41-1 <sup>b</sup>      |                                      | 2.30                     | 560.1 ± 5.1                      |                                    |                            |   | 514.8 ± 29.3                     |   |
| 42-1 <sup>b</sup>      |                                      | 2.03                     | 642.9 ± 6.2                      |                                    |                            |   | 500.2 ± 19.2                     |   |
| 43-1 <sup>b</sup>      |                                      | 2.41                     | 374.9 ± 3.5                      |                                    |                            |   | 516.1 ± 24.4                     |   |
| 43-3 <sup>b</sup>      |                                      | 2.00                     |                                  |                                    |                            |   |                                  |   |
| 45-2 <sup>b</sup>      |                                      | 2.99                     | 1159.6 ± 11.7                    |                                    |                            |   | 530.5 ± 24.9                     |   |
| 46-1 <sup>b</sup>      |                                      | 3.77                     | 13.0 ± 0.1                       |                                    |                            | 481.4 ± 17.1  |                                  |   |
| 51-1 <sup>b</sup>      |                                      | 2.53                     | 147.3 ± 1.2                      |                                    | −7 ± 58                    | ≤0.43   | 504.8 ± 19.9                     |   |
| 51-2 <sup>b</sup>      |                                      | 2.20                     | 86.3 ± 0.7                       |                                    | 43 ± 27                    | ≤0.15   | 522.4 ± 21.4                     |   |
| 53-1 <sup>b</sup>      |                                      | 2.28                     | 396.5 ± 3.6                      |                                    |                            |   | 515.8 ± 20.9                     |   |
| 57-1 <sup>b</sup>      |                                      | 2.74                     | 45.3 ± 0.4                       |                                    |                            |   | 505.0 ± 16.2                     |   |
| 58-1 <sup>b</sup>      |                                      | 4.65                     | 16.2 ± 0.1                       |                                    |                            |   | 447.8 ± 16.4                     |   |
| 61-1 <sup>b</sup>      |                                      | 3.90                     | 217.5 ± 1.9                      |                                    |                            |   | 526.3 ± 22.3                     |   |

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**Table 2**  
(Continued)

| Grain KFB1g-      | Gas-rich? | $\phi$ ( $\mu\text{m}$ ) | $^{12}\text{C}/^{13}\text{C}$ | $^{20}\text{Ne}/^{22}\text{Ne}$ | $\delta^{25}\text{Mg}$ (‰) | $(^{26}\text{Al}/^{27}\text{Al})_{\text{inferred}}$ ( $10^{-3}$ ) | $^{16}\text{O}/^{18}\text{O}$ | Putative Stellar Source |
|-------------------|-----------|--------------------------|-------------------------------|---------------------------------|----------------------------|---|-------------------------------|-------------------------|
| 62-1 <sup>b</sup> |           | 4.17                     |                               |                                 |                            |   |                               |                         |
| 63-1 <sup>b</sup> |           | 3.09                     | 87.3 $\pm$ 0.7                |                                 | 57 $\pm$ 25                | 0.62 $\pm$ 0.17   | 503.0 $\pm$ 18.0              |                         |
| 63-4 <sup>b</sup> |           | 2.70                     |                               |                                 |                            |   |                               |                         |
| 64-4 <sup>b</sup> |           | 1.68                     | 453.1 $\pm$ 4.5               |                                 |                            |   | 486.9 $\pm$ 17.3              |                         |
| 65-1 <sup>b</sup> |           | 1.84                     | 60.8 $\pm$ 0.5                |                                 |                            |   | 496.4 $\pm$ 24.0              |                         |
| 71-1 <sup>b</sup> |           | 4.08                     | 592.0 $\pm$ 6.1               |                                 |                            |   | 529.9 $\pm$ 31.0              |                         |
| 71-2 <sup>b</sup> |           | 1.87                     | 552.5 $\pm$ 5.4               |                                 |                            |   | 507.4 $\pm$ 22.3              |                         |
| 73-1 <sup>b</sup> |           | 3.29                     | 1074.7 $\pm$ 12.0             |                                 |                            |   | 524.0 $\pm$ 31.5              |                         |
| 73-2 <sup>b</sup> |           | 2.69                     | 761.1 $\pm$ 7.9               |                                 |                            |   | 535.7 $\pm$ 26.5              |                         |

**Notes.** We first list grains where one likely parent star type has been assigned, followed by grains where different types of stellar sources are possible. Uncertainties are  $1\sigma$  analytical errors.

<sup>a</sup> Noble gas analysis session 2.

<sup>b</sup> Noble gas analysis session 3.

**Table 3**  
Gas Amount and Concentrations of  $^{22}\text{Ne}$ -rich KFB1g Graphite Grains and Upper Limits of  $^{20}\text{Ne}/^{22}\text{Ne}$  Ratios of the Other Grains

| Grain KFB1g-           | Diameter ( $\mu\text{m}$ ) | $^{22}\text{Ne}$ ( $10^{-14}$ cm <sup>3</sup> STP) | [ $^{22}\text{Ne}$ ] ( $10^{-3}$ cm <sup>3</sup> STP g <sup>-1</sup> ) | $^{20}\text{Ne}/^{22}\text{Ne}$ |
|------------------------|----------------------------|--|--|---------------------------------|
| 07-1 <sup>a</sup>      | 4.37                       |  |  |                                 |
| 10-1 <sup>a</sup>      | 1.94                       |  |  |                                 |
| 12/22-1/1 <sup>a</sup> | 1.75                       |  |  |                                 |
| 15-2 <sup>a</sup>      | 6.17                       | 0.73 $\pm$ 0.28                                    | 0.028 $\pm$ 0.011  | $\leq 8.6$                      |
| 24-2 <sup>a</sup>      | 1.97                       |  |  |                                 |
| 25-3 <sup>a</sup>      | 2.58                       |  |  |                                 |
| 26-2 <sup>a</sup>      | 3.65                       |  |  |                                 |
| 26-3 <sup>a</sup>      | 2.21                       | 0.56 $\pm$ 0.23                                    | 0.47 $\pm$ 0.20  | $\leq 8.6$                      |
| 27-1 <sup>a</sup>      | 2.75                       |  |  |                                 |
| 27-5 <sup>a</sup>      | 1.78                       | 0.87 $\pm$ 0.21                                    | 1.39 $\pm$ 0.34  | $\leq 7.0$                      |
| 30-1 <sup>a</sup>      | 2.58                       |  |  |                                 |
| 30-2 <sup>a</sup>      | 1.96                       |  |  |                                 |
| 31-1 <sup>a</sup>      | 3.16                       |  |  |                                 |
| 31-2 <sup>a</sup>      | 2.24                       |  |  |                                 |
| 32-1 <sup>a</sup>      | 3.05                       |  |  |                                 |
| 32-2/3 <sup>a</sup>    | 1.89                       |  |  |                                 |
| 34-4 <sup>a</sup>      | 2.17                       | 145.00 $\pm$ 0.71                                  | 128.0 $\pm$ 1.6  | 0.032 $\pm$ 0.018               |
| 37-1 <sup>a</sup>      | 3.82                       | 0.39 $\pm$ 0.23                                    | 0.064 $\pm$ 0.037  | $\leq 8.6$                      |
| 40-1 <sup>b</sup>      | 2.65                       |  |  |                                 |
| 41-1 <sup>b</sup>      | 2.30                       |  |  |                                 |
| 42-1 <sup>b</sup>      | 2.03                       |  |  |                                 |
| 43-1 <sup>b</sup>      | 2.41                       |  |  |                                 |
| 43-2 <sup>b</sup>      | 2.36                       | 3.42 $\pm$ 0.12                                    | 2.340 $\pm$ 0.088  | $\leq 1.1$                      |
| 43-3 <sup>b</sup>      | 2.00                       |  |  |                                 |
| 45-1 <sup>b</sup>      | 3.73                       | 2.42 $\pm$ 0.12                                    | 0.419 $\pm$ 0.022  | 1.7 $\pm$ 1.0                   |
| 45-2 <sup>b</sup>      | 2.99                       |  |  |                                 |
| 46-1 <sup>b</sup>      | 3.76                       |  |  |                                 |
| 51-1 <sup>b</sup>      | 2.53                       |  |  |                                 |
| 51-2 <sup>b</sup>      | 2.20                       |  |  |                                 |
| 53-1 <sup>b</sup>      | 2.28                       |  |  |                                 |
| 53-2 <sup>b</sup>      | 3.31                       |  |  |                                 |
| 53-4 <sup>b</sup>      | 2.24                       | 0.44 $\pm$ 0.10                                    | 0.354 $\pm$ 0.084  | $\leq 8.4$                      |
| 56-1 <sup>b</sup>      | 3.62                       |  |  |                                 |
| 57-1 <sup>b</sup>      | 2.74                       |  |  |                                 |
| 57-3 <sup>b</sup>      | 2.21                       |  |  |                                 |
| 58-1 <sup>b</sup>      | 4.65                       |  |  |                                 |
| 61-1 <sup>b</sup>      | 3.90                       |  |  |                                 |
| 62-1 <sup>b</sup>      | 4.17                       |  |  |                                 |
| 63-1 <sup>b</sup>      | 3.09                       |  |  |                                 |
| 63-4 <sup>b</sup>      | 2.70                       |  |  |                                 |
| 64-1 <sup>b</sup>      | 5.18                       | 48.40 $\pm$ 0.25                                   | 3.140 $\pm$ 0.040  | $\leq 0.08$                     |
| 64-4 <sup>b</sup>      | 1.68                       |  |  |                                 |
| 64-6 <sup>b</sup>      | 3.18                       | 0.77 $\pm$ 0.11                                    | 0.215 $\pm$ 0.032  | $\leq 4.8$                      |

**Table 3**  
(Continued)

| Grain KFB1g-      | Diameter ( $\mu\text{m}$ ) | $^{22}\text{Ne}$ ( $10^{-14}$ cm $^3$ STP) | [ $^{22}\text{Ne}$ ] ( $10^{-3}$ cm $^3$ STP g $^{-1}$ ) | $^{20}\text{Ne}/^{22}\text{Ne}$ |
|-------------------|----------------------------|--|--|---------------------------------|
| 65-1 <sup>b</sup> | 1.84                       |  |  |                                 |
| 71-1 <sup>b</sup> | 4.08                       |  |  |                                 |
| 71-2 <sup>b</sup> | 1.87                       |  |  |                                 |
| 73-1 <sup>b</sup> | 3.29                       |  |  |                                 |
| 73-2 <sup>b</sup> | 2.69                       |  |  |                                 |
| 73-3 <sup>b</sup> | 1.88                       | $0.55 \pm 0.14$                            | $0.74 \pm 0.18$  | $\leq 6.7$                      |

**Notes.** Uncertainties are  $1\sigma$  analytical errors.

<sup>a</sup> Noble gas analysis session 2.

<sup>b</sup> Noble gas analysis session 3.