Supplementary material for the manuscript entitled:

Serum bicarbonate stability study at room temperature – influence of time to centrifugation and air exposure on bicarbonate measurement reported according to the CRESS checklist

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Results of the serum bicarbonate stability study. Raw data for each participant at different times to centrifugation and air exposure conditions at room temperature. Outliers are shown as bold values.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Basal** | **C\_0h\_1h** | **C\_0h\_2h** | **OT\_0h\_1h** | **OT\_0h\_2h** | **WB\_2h** | **C\_2h\_1h** | **C\_2h\_2h** | **OT\_2h\_1h** | **OT\_2h\_2h** | **WB\_4h** | **C\_4h\_1h** | **C\_4h\_2h** | **OT\_4h\_1h** | **OT\_4h\_2h** |
| Participant 1 | Replicate 1 | 29.3 | 30.8 | 31.4 | 27.4 | 27.1 | 30.6 | 30.2 | 30.2 | 27.6 | 26.1 | 29.8 | 29.7 | 29.5 | 27.4 | 26.0 |
|  | Replicate 2 | 29.0 | 30.0 | 30.2 | 27.7 | 26.1 | 29.4 | 30.1 | 29.8 | 28.1 | 25.9 | 29.2 | 28.8 | 28.0 | 27.3 | 25.7 |
|  | Replicate 3 | 29.1 | 30.0 | 29.7 | 27.1 | 26.5 | 29.3 | 29.3 | 29.4 | 27.9 | 25.9 | 28.7 | 28.7 | 28.1 | 27.1 | 25.6 |
|  | Median | 29.1 | 30.0 | 30.2 | 27.4 | 26.5 | 29.4 | 30.1 | 29.8 | 27.9 | 25.9 | 29.2 | 28.8 | 28.1 | 27.3 | 25.7 |
|  | CV% | 0.52 | 1.54 | 2.89 | 1.09 | 1.90 | 2.46 | 1.64 | 1.34 | 0.90 | 0.45 | 1.89 | 1.91 | 2.98 | 0.56 | 0.81 |
|  | PD% |  | 3.09 | 3.78 | -5.84 | -8.93 | 1.03 | 3.44 | 2.41 | -4.12 | -11.00 | 0.34 | -1.03 | -3.44 | -6.19 | -11.68 |
| Participant 2 | Replicate 1 | 28.7 | 30.2 | 29.8 | 27.6 | 25.9 | 30.2 | 29.1 | 28.9 | 28.0 | 26.6 | 28.5 | 27.8 | 28.2 | 27.1 | 25.3 |
|  | Replicate 2 | 29.2 | 29.2 | 29.4 | 27.1 | 26.3 | 29.3 | 28.9 | 29.3 | 27.6 | 26.3 | 28.5 | 28.7 | 28.4 | 26.7 | 25.0 |
|  | Replicate 3 | 28.7 | 29.6 | 29.2 | 26.9 | 26.1 | 29.3 | 29.4 | 28.0 | 27.4 | 26.2 | 28.0 | 28.0 | 27.8 | 26.4 | 25.0 |
|  | Median | 28.7 | 29.6 | 29.4 | 27.1 | 26.1 | 29.3 | 29.1 | 28.9 | 27.6 | 26.3 | 28.5 | 28.0 | 28.2 | 26.7 | 25.0 |
|  | CV% | 1.01 | 1.70 | 1.04 | 1.33 | 0.77 | 1.77 | 0.86 | 2.30 | 1.11 | 0.79 | 1.01 | 1.69 | 1.08 | 1.32 | 0.69 |
|  | PD% |  | 3.14 | 2.44 | -5.57 | -9.06 | 2.09 | 1.39 | 0.70 | -3.83 | -8.36 | -0.70 | -2.44 | -1.74 | -6.97 | -12.89 |
| Participant 3 | Replicate 1 | 28.0 | 28.9 | 29.1 | 27.1 | 25.3 | 28.5 | 28.4 | 27.9 | 25.8 | 24.3 | 27.9 | 27.0 | 27.9 | 26.1 | 25.1 |
|  | Replicate 2 | 28.1 | 28.5 | 28.6 | 26.2 | 25.5 | 27.2 | 27.8 | 27.9 | 26.0 | 23.7 | 27.6 | 27.6 | 27.2 | 26.0 | 24.9 |
|  | Replicate 3 | 27.8 | 28.4 | 28.1 | 26.1 | 25.1 | 28.0 | 27.6 | 27.5 | 26.1 | 23.7 | 27.9 | 27.0 | 27.5 | 26.3 | 24.6 |
|  | Median | 28.0 | 28.5 | 28.6 | 26.2 | 25.3 | 28.0 | 27.8 | 27.9 | 26.0 | 23.7 | 27.9 | 27.0 | 27.5 | 26.1 | 24.9 |
|  | CV% | 0.55 | 0.93 | 1.75 | 2.10 | 0.79 | 2.34 | 1.50 | 0.83 | 0.59 | 1.46 | 0.62 | 1.28 | 1.28 | 0.59 | 1.01 |
|  | PD% |  | 1.79 | 2.14 | -6.43 | -9.64 | 0.00 | -0.71 | -0.36 | -7.14 | -15.36 | -0.36 | -3.57 | -1.79 | -6.79 | -11.07 |
| Participant 4 | Replicate 1 | 24.1 | 24.0 | 24.0 | 21.3 | 20.4 | 23.9 | 24.1 | 24.0 | 22.7 | 21.8 | 24.7 | 23.8 | 24.0 | 22.7 | 21.5 |
|  | Replicate 2 | 23.3 | 23.4 | 23.1 | 21.9 | 20.6 | 23.7 | 23.8 | 23.8 | 22.4 | 21.6 | 24.5 | 23.1 | 23.7 | 22.6 | 22.0 |
|  | Replicate 3 | 23.4 | 23.4 | 23.3 | 22.2 | 20.6 | 23.5 | 23.5 | 24.2 | 22.6 | 21.4 | 24.0 | 23.3 | 23.4 | 22.6 | 21.9 |
|  | Median | 23.4 | 23.4 | 23.3 | 21.9 | 20.6 | 23.7 | 23.8 | 24.0 | 22.6 | 21.6 | 24.5 | 23.3 | 23.7 | 22.6 | 21.9 |
|  | CV% | 1.86 | 1.48 | 2.03 | 2.09 | 0.56 | 0.84 | 1.26 | 0.83 | 0.68 | 0.93 | 1.47 | 1.55 | 1.27 | 0.26 | 1.21 |
|  | PD% |  | 0.00 | -0.43 | -6.41 | -11.97 | 1.28 | 1.71 | 2.56 | -3.42 | -7.69 | **4.70** | -0.43 | **1.28** | -3.42 | **-6.41** |

Table - continued

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Basal** | **C\_0h\_1h** | **C\_0h\_2h** | **OT\_0h\_1h** | **OT\_0h\_2h** | **WB\_2h** | **C\_2h\_1h** | **C\_2h\_2h** | **OT\_2h\_1h** | **OT\_2h\_2h** | **WB\_4h** | **C\_4h\_1h** | **C\_4h\_2h** | **OT\_4h\_1h** | **OT\_4h\_2h** |
| Participant 5 | Replicate 1 | 29.8 | 29.9 | 30.2 | 26.7 | 26.2 | 29.7 | 29.9 | 29.9 | 28.3 | 26.5 | 29.4 | 29.6 | 29.3 | 27.4 | 26.1 |
|  | Replicate 2 | 29.6 | 29.5 | 29.5 | 27.9 | 26.2 | 29.3 | 29.3 | 29.3 | 28.0 | 26.6 | 29.2 | 28.5 | 28.7 | 27.4 | 26.0 |
|  | Replicate 3 | 29.5 | 29.5 | 29.9 | 28.0 | 26.1 | 29.2 | 29.2 | 29.6 | 27.9 | 26.1 | 29.0 | 28.7 | 28.5 | 27.4 | 26.1 |
|  | Median | 29.6 | 29.5 | 29.9 | 27.9 | 26.2 | 29.3 | 29.3 | 29.6 | 28.0 | 26.5 | 29.2 | 28.7 | 28.7 | 27.4 | 26.1 |
|  | CV% | 0.52 | 0.78 | 1.17 | 2.59 | 0.22 | 0.90 | 1.29 | 1.01 | 0.74 | 1.00 | 0.68 | 2.04 | 1.45 | 0.00 | 0.22 |
|  | PD% |  | -0.34 | 1.01 | -5.74 | -11.49 | -1.01 | -1.01 | 0.00 | -5.41 | -10.47 | -1.35 | -3.04 | -3.04 | -7.43 | -11.82 |
| Participant 6 | Replicate 1 | 25.5 | 24.5 | 24.7 | 22.4 | 21.4 | 25.3 | 24.5 | 23.7 | 23.6 | 22.2 | 24.0 | 22.7 | 22.6 | 21.6 | 20.4 |
|  | Replicate 2 | 24.9 | 24.4 | 24.3 | 22.6 | 21.4 | 24.8 | 24.1 | 23.2 | 23.6 | 21.8 | 23.3 | 22.1 | 21.9 | 21.6 | 20.6 |
|  | Replicate 3 | 25.3 | 23.9 | 23.9 | 22.9 | 21.2 | 24.7 | 24.2 | 23.4 | 23.3 | 21.8 | 23.0 | 22.5 | 22.1 | 21.6 | 20.2 |
|  | Median | 25.3 | 24.4 | 24.3 | 22.6 | 21.4 | 24.8 | 24.2 | 23.4 | 23.6 | 21.8 | 23.3 | 22.5 | 22.1 | 21.6 | 20.4 |
|  | CV% | 1.21 | 1.32 | 1.65 | 1.11 | 0.54 | 1.30 | 0.86 | 1.08 | 0.73 | 1.06 | 2.20 | 1.36 | 1.63 | 0.00 | 0.98 |
|  | PD% |  | -3.56 | -3.95 | **-10.67** | -15.42 | -1.98 | -4.35 | **-7.51** | -6.72 | -13.83 | **-7.91** | **-11.07** | **-12.65** | **-14.62** | **-19.37** |
| Participant 7 | Replicate 1 | 28.3 | 27.7 | 28.3 | 25.6 | 24.9 | 27.3 | 27.9 | 27.8 | 26.7 | 25.0 | 28.1 | 27.5 | 27.0 | 26.0 | 24.3 |
|  | Replicate 2 | 27.8 | 27.7 | 27.4 | 26.5 | 25.1 | 27.1 | 27.8 | 27.5 | 26.5 | 25.0 | 27.3 | 27.2 | 26.6 | 26.0 | 24.7 |
|  | Replicate 3 | 27.5 | 27.6 | 28.0 | 26.0 | 24.7 | 26.9 | 27.3 | 27.0 | 26.6 | 24.6 | 27.5 | 26.8 | 27.1 | 25.8 | 25.0 |
|  | Median | 27.8 | 27.7 | 28.0 | 26.0 | 24.9 | 27.1 | 27.8 | 27.5 | 26.6 | 25.0 | 27.5 | 27.2 | 27.0 | 26.0 | 24.7 |
|  | CV% | 1.45 | 0.21 | 1.64 | 1.73 | 0.80 | 0.74 | 1.16 | 1.47 | 0.38 | 0.92 | 1.51 | 1.29 | 0.98 | 0.44 | 1.42 |
|  | PD% |  | -0.36 | 0.72 | -6.47 | -10.43 | -2.52 | 0.00 | -1.08 | -4.32 | -10.07 | -1.08 | -2.16 | -2.88 | -6.47 | -11.15 |
| Participant 8 | Replicate 1 | 26.6 | 26.8 | 26.7 | 25.0 | 24.2 | 26.3 | 27.0 | 26.5 | 23.5 | 22.2 | 27.0 | 26.8 | 26.0 | 24.3 | 23.2 |
|  | Replicate 2 | 26.8 | 26.4 | 25.9 | 25.0 | 24.2 | 25.4 | 25.8 | 25.8 | 23.9 | 22.4 | 25.9 | 26.2 | 25.9 | 24.2 | 22.9 |
|  | Replicate 3 | 26.5 | 26.4 | 26.1 | 24.9 | 23.8 | 25.2 | 26.4 | 25.9 | 24.0 | 22.5 | 26.0 | 25.9 | 25.5 | 24.2 | 23.5 |
|  | Median | 26.6 | 26.4 | 26.1 | 25.0 | 24.2 | 25.4 | 26.4 | 25.9 | 23.9 | 22.4 | 26.0 | 26.2 | 25.9 | 24.2 | 23.2 |
|  | CV% | 0.57 | 0.87 | 1.60 | 0.23 | 0.95 | 2.31 | 2.27 | 1.46 | 1.11 | 0.68 | 2.34 | 1.75 | 1.02 | 0.24 | 1.29 |
|  | PD% |  | -0.75 | -1.88 | -6.02 | -9.02 | -4.51 | -0.75 | -2.63 | -10.15 | -15.79 | -2.26 | -1.50 | -2.63 | -9.02 | -12.78 |
| Participant 9 | Replicate 1 | 26.7 | 27.6 | 28.0 | 25.0 | 23.6 | 28.2 | 27.7 | 28.0 | 26.5 | 24.9 | 28.1 | 27.6 | 26.0 | 26.2 | 24.7 |
|  | Replicate 2 | 26.7 | 27.7 | 27.8 | 24.8 | 23.3 | 28.0 | 27.1 | 27.4 | 26.4 | 24.8 | 27.5 | 27.2 | 26.4 | 25.8 | 25.1 |
|  | Replicate 3 | 26.2 | 27.1 | 27.7 | 25.1 | 23.6 | 27.6 | 27.0 | 27.6 | 26.4 | 24.8 | 27.3 | 26.7 | 26.3 | 25.6 | 24.7 |
|  | Median | 26.7 | 27.6 | 27.8 | 25.0 | 23.6 | 28.0 | 27.1 | 27.6 | 26.4 | 24.8 | 27.5 | 27.2 | 26.3 | 25.8 | 24.7 |
|  | CV% | 1.08 | 1.16 | 0.55 | 0.61 | 0.73 | 1.09 | 1.40 | 1.11 | 0.22 | 0.23 | 1.51 | 1.66 | 0.79 | 1.18 | 0.93 |
|  | PD% |  | 3.37 | 4.12 | -6.37 | -11.61 | 4.87 | 1.50 | 3.37 | -1.12 | -7.12 | 3.00 | 1.87 | -1.50 | -3.37 | **-7.49** |

Table - continued

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Basal** | **C\_0h\_1h** | **C\_0h\_2h** | **OT\_0h\_1h** | **OT\_0h\_2h** | **WB\_2h** | **C\_2h\_1h** | **C\_2h\_2h** | **OT\_2h\_1h** | **OT\_2h\_2h** | **WB\_4h** | **C\_4h\_1h** | **C\_4h\_2h** | **OT\_4h\_1h** | **OT\_4h\_2h** |
| Participant 10 | Replicate 1 | 27.4 | 26.7 | 26.1 | 26.4 | 24.9 | 27.6 | 27.7 | 27.4 | 25.2 | 23.9 | 27.2 | 27.8 | 26.9 | 25.5 | 23.8 |
|  | Replicate 2 | 27.5 | 27.6 | 25.7 | 25.9 | 24.6 | 27.2 | 27.1 | 26.9 | 25.1 | 23.6 | 26.6 | 26.9 | 26.8 | 24.9 | 23.6 |
|  | Replicate 3 | 27.1 | 26.9 | 25.5 | 26.0 | 25.0 | 26.7 | 26.4 | 27.0 | 25.3 | 23.7 | 26.1 | 26.9 | 26.9 | 24.7 | 23.5 |
|  | Median | 27.4 | 26.9 | 25.7 | 26.0 | 24.9 | 27.2 | 27.1 | 27.0 | 25.2 | 23.7 | 26.6 | 26.9 | 26.9 | 24.9 | 23.6 |
|  | CV% | 0.76 | 1.76 | 1.19 | 1.02 | 0.84 | 1.66 | 2.40 | 0.98 | 0.40 | 0.64 | 2.07 | 1.93 | 0.21 | 1.67 | 0.65 |
|  | PD% |  | -1.82 | -6.20 | -5.11 | -9.12 | -0.73 | -1.09 | -1.46 | -8.03 | -13.50 | -2.92 | -1.82 | -1.82 | -9.12 | -13.87 |

Basal – tube centrifuged 30 minutes after collection and analyzed immediately; OT\_0h\_1h – tube centrifuged 30 minutes after collection and exposed to air for 1 hour; OT\_0h\_2h - tube centrifuged 30 minutes after collection and exposed to air for 2 hours; C\_0h\_1h – tube centrifuged 30 minutes after collection and decapped 1 hour after; C\_0h\_2h - tube centrifuged 30 minutes after collection and decapped 2 hours after; WB\_2h - tube centrifuged 2 hours after collection and analyzed immediately; OT\_2h\_1h - tube centrifuged 2 hours after collection and exposed to air for 1 hour; OT\_2h\_2h - tube centrifuged 2 hours after collection and exposed to air for 2 hours; C\_2h\_1h – tube centrifuged 2 hours after collection and decapped 1 hour after; C\_2h\_2h - tube centrifuged 2 hours after collection and decapped 2 hours after; WB\_4h - tube centrifuged 4 hours after collection and analyzed immediately; OT\_4h\_1h - tube centrifuged 4 hours after collection and exposed to air for 1 hour; OT\_4h\_2h - tube centrifuged 4 hours after collection and exposed to air for 2 hours; C\_4h\_1h – tube centrifuged 4 hours after collection and decapped 1 hour after; C\_4h\_2h - tube centrifuged 4 hours after collection and decapped 2 hours after.