**Supplementary Table S7.** Stability of metabolites in *E.coli* cell extract and external standard solutions (LLOQ=78.1 nM, LQC=312.5 nM, MQC= 2500 nM, and HQC=7500 nM), spiked with 90% v/v matrix, through three consecutive freeze–thaw cycles, expressed as average recovery (%) of technical replicates ± SD. The recovery (%) was calculated by dividing the response after each consecutive freeze–thaw cycle by the response obtained before freezing the samples.

| QC Sample | Recovery (%) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **NAM** | **NCA** | **1mNAM** | **NR** | **FAD** | **NADH** | **ADPR** | **$NAD^+$** | **NMN** | **NAMN** | **NADPH** | **$NADP^+$** |
| **Freeze-thaw cycle 1** | | | | | | | | | | | | |
| ***E. coli*** | 102.0 ±11.2 | 152.5 ± 27.2 | - | 86.6 ± 8.1 | 99.0 ± 3.6 | 103.6 ± 4.1 | 132.7 ± 8.4 | 99.8 ± 3.1 | 76.7 ± 0.9 | 85.5 ± 2.6 | 112.0 ± 11.4 | 98.8 ± 1.6 |
| **LLOQ** | 124.9 ± 20.7 | 143.1 ± 20.2 | 112.6 ± 14.4 | 119.4 ± 2.4 | 97.4 ± 1.9 | 102.2 ± 5.1 | 163.4 ± 3.8 | 101.3 ± 3.7 | 127.8 ± 23.3 | 105.0 ± 8.7 | 98.4 ± 6.1 | 108.9 ± 6.9 |
| **LQC** | 140.7 ± 19.5 | 155.4 ± 13.4 | 136.0 ± 18.6 | 129.5 ±22.7 | 99.0 ± 0.1 | 96.0 ± 4.0 | 119.2 ± 5.0 | 98.5 ± 6.6 | 105.3 ± 4.0 | 107.5 ± 8.5 | 98.3 ± 1.6 | 99.7 ± 6.2 |
| **MQC** | 98.1 ± 16.4 | 112.1 ± 16.7 | 61.2 ± 9.9 | 64.4 ± 0.7 | 64.9 ± 3.2 | 78.3 ± 4.8 | 63.5 ± 7.9 | 88.2 ± 2.4 | 71.4 ± 7.2 | 69.9 ± 12.3 | 58.6 ± 6.9 | 65.8 ± 3.9 |
| **HQC** | 53.2 ± 1.9 | 51.6 ±11.3 | 37.2 ± 3.2 | 31.9 ± 1.7 | 26.2 ± 0.7 | 49.7 ± 2.2 | 27.7 ± 1.5 | 51.4 ± 2.6 | 26.5 ± 1.6 | 29.3 ± 2.7 | 31.9 ± 0.8 | 33.2 ± 1.5 |
| **Freeze-thaw cycle 2** | | | | | | | | | | | | |
| ***E. coli*** | 92.8 ± 12.3 | 136.7 ± 19.8 | - | 75.1 ± 2.0 | 95.4 ± 1.8 | 96.3 ± 3.1 | 176.5 ±3.9 | 94.9 ± 4.0 | 87.6 ± 6.2 | 94.3 ± 6.2 | 116.4 ± 7.5 | 105.5 ± 1.7 |
| **LLOQ** | 116.8 ± 25.4 | 126.3 ± 5.8 | 107.3 ± 12.0 | 108.0 ± 5.6 | 98.9 ± 3.5 | 104.6 ± 3.5 | 216.2 ± 29.1 | 104.1 ± 2.0 | 139.9 ± 19.3 | 110.5 ± 9.3 | 102.6 ± 10.6 | 119.3 ± 2.2 |
| **LQC** | 128.8 ± 20.4 | 192.6 ± 35.2 | 126.9 ± 1.6 | 107.9 ± 8.8 | 100.7 ± 6.3 | 102.6 ± 7.7 | 139.5 ± 8.0 | 99.1 ± 2.0 | 97.9 ± 5.0 | 111.8 ± 3.7 | 101.4 ± 6.9 | 103.9 ± 2.3 |
| **MQC** | 71.5 ± 9.5 | 85.7 ± 7.1 | 60.3 ± 7.2 | 55.7 ± 6.6 | 65.9 ± 0.9 | 80.9 ± 6.9 | 73.0 ± 4.1 | 91.5 ±9.2 | 68.7 ± 7.3 | 75.7 ± 3.9 | 67.0 ± 5.5 | 72.4 ± 3.6 |
| **HQC** | 45.2 ± 3.9 | 45.2 ± 9.9 | 30.9 ± 4.0 | 27.2 ± 2.0 | 27.8 ± 0.5 | 48.8 ± 2.3 | 32.0 ± 1.1 | 50.4 ± 1.5 | 25.8 ± 1.2 | 32.9 ± 2.5 | 33.6 ± 0.7 | 36.5 ± 1.2 |
| **Freeze-thaw cycle 3** | | | | | | | | | | | | |
| ***E. coli*** | 132.2 ± 14.8 | 245.0 ± 72.1 | - | 76.7 ± 3.5 | 100.4 ± 9.5 | 105.2 ± 5.1 | 213.0 ± 24.5 | 98.2 ± 5.1 | 89.7 ± 17.4 | 88.3 ± 9.0 | 108.9 ± 2.9 | 102.9 ± 2.9 |
| **LLOQ** | 127.6 ± 10.0 | 204.5 ± 7.9 | 97.0 ± 8.9 | 104.3 ± 6.6 | 104.9 ± 2.2 | 102.6 ± 2.1 | 202.3 ± 18.3 | 100.4 ±1.2 | 150.8 ± 19.3 | 119.4 ± 11.4 | 106.5 ± 4.5 | 117.2 ± 2.5 |
| **LQC** | 116.1 ± 30.0 | 176.5 ± 30.1 | 113.0 ± 11.5 | 105.1 ± 2.3 | 94.3 ± 6.2 | 97.6 ± 2.4 | 139.4 ± 11.9 | 99.3 ± 1.9 | 108.9 ± 4.9 | 116.3 ± 1.9 | 100.0 ± 3.1 | 98.0 ± 5.6 |
| **MQC** | 86.4 ± 5.9 | 115.8 ± 13.6 | 55.3 ± 2.1 | 60.8 ± 2.4 | 65.5 ± 0.5 | 82.7 ± 4.4 | 70.7 ± 6.3 | 96.1 ± 5.2 | 68.9 ± 5.6 | 77.0 ± 3.3 | 62.9 ± 8.4 | 74.9 ± 3.6 |
| **HQC** | 47.8 ± 7.5 | 60.0 ± 9.8 | 28.0 ± 2.3 | 26.0 ± 3.3 | 26.3 ± 0.5 | 51.2 ± 1.9 | 31.9 ± 3.3 | 52.2 ± 2.7 | 26.6 ± 1.9 | 33.6 ± 0.9 | 32.1 ± 0.7 | 34.5 ± 3.6 |