**Table S4**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1. Without BG subtraction | | | | | 1. With BG subtraction | | | |
| VCA |  | **EM 1** | **EM 2** | **EM 3** | **EM 4** | **EM 1** | **EM 2** | **EM 3** | **EM 4** |
| EM 1 | VCA | 1.000 |  |  |  | 1.000 |  |  |  |
| NMF | 0.819 | 0.824 | 0.667 | -0.490 | 0.81 | 0.618 | 0.653 | 0.714 |
| MCR no PCA | 0.836 | 0.829 | 0.674 | -0.530 | 0.782 | 0.636 | 0.607 | 0.833 |
| MCR with PCA | 0.661 | 0.823 | 0.620 | -0.651 | 0.837 | 0.533 | 0.274 | 0.727 |
| EM 2 | VCA |  | 1.000 |  |  |  | 1.000 |  |  |
| NMF | 0.722 | 0.825 | 0.695 | -0.372 | 0.750 | 0.749 | 0.757 | 0.769 |
| MCR no PCA | 0.752 | 0.830 | 0.702 | -0.396 | 0.724 | 0.7583 | 0.735 | 0.747 |
| MCR with PCA | 0.542 | 0.826 | 0.651 | -0.530 | 0.721 | 0.6973 | 0.410 | 0.718 |
| EM 3 | VCA |  |  | 1.000 |  |  |  | 1.000 |  |
| NMF | 0.515 | 0.690 | 0.724 | -0.115 | 0.659 | 0.681 | 0.737 | 0.693 |
| MCR no PCA | 0.553 | 0.689 | 0.768 | -0.177 | 0.636 | 0.686 | 0.732 | 0.654 |
| MCR with PCA | 0.323 | 0.685 | 0.753 | -0.313 | 0.620 | 0.630 | 0.507 | 0.642 |
| EM 4 | VCA |  |  |  | 1.000 |  |  |  | 1.000 |
| NMF | -0.846 | -0.345 | -0.241 | 0.893 | 0.412 | 0.124 | 0.147 | 0.188 |
| MCR no PCA | -0.801 | -0.348 | -0.233 | 0.986 | 0.391 | 0.131 | 0.096 | 0.443 |
| MCR with PCA | -0.897 | -0.333 | -0.217 | 0.971 | 0.514 | 0.030 | 0.001 | 0.283 |