

Table S2. Performance evaluation with errors in ortholog map. 10%-30% of the ortholog mapping in synthetic dataset 1 (Table S1) are randomly permuted to represent the scenarios of errors in ortholog map. SCSC, K-means and DCA were executed on these perturbed datasets, and performance metrics were recorded.

| Error proportion in ortholog map | Center scatter | | | Global scatter | | | Wrong proportion | | |
|-------------------------------------|----------------|-------------|------|----------------|-------------|------|------------------|-------------|------|
| | SCSC | K- means | DCA | SCSC | K- means | DCA | SCSC | K- means | DCA |
| 0% | 1.05 | 2.32 | 1.66 | 0.36 | 2.07 | 5.60 | 0.07 | 0.33 | 0.80 |
| 10% | 1.27 | 2.16 | 4.19 | 0.48 | 2.50 | 6.72 | 0.09 | 0.36 | 0.90 |
| 20% | 1.51 | 2.34 | 4.19 | 1.04 | 2.84 | 6.72 | 0.16 | 0.40 | 0.90 |
| 30% | 1.61 | 2.41 | 4.19 | 1.24 | 3.08 | 6.72 | 0.19 | 0.43 | 0.90 |