Correlation between log(PFM) and log(Fluxomic data)

Lambda has been optimized using CV	Without noise			With 2% Error			With 5% Error			With 10% Error		
	pc1	pc2	pc3	pc1	pc2	pc3	pc1	pc2	pc3	pc1	pc2	pc3
Simulated flux with out noise												
1	-0.09	0.71	0.21	-0.10	0.16	0.69	-0.10	0.16	0.69	-0.10	0.16	0.69
2	0.91	0.05	-0.18	0.92	0.08	0.02	0.92	0.08	0.02	0.92	0.08	0.02
3	0.17	0.34	0.01	0.16	0.63	0.28	0.16	0.63	0.28	0.16	0.63	0.28
4	-0.16	0.62	0.32	-0.17	0.16	0.61	-0.17	0.16	0.61	-0.17	0.16	0.61
5	0.95	-0.09	-0.21	0.92	0.03	-0.12	0.92	0.03	-0.12	0.92	0.03	-0.12
6	0.17	0.34	0.01	0.15	0.60	0.29	0.15	0.60	0.29	0.15	0.60	0.29
7	-0.05	0.75	0.15	-0.06	0.15	0.72	-0.06	0.15	0.72	-0.06	0.15	0.72
8	0.87	0.06	-0.20	0.89	0.08	0.03	0.89	0.08	0.03	0.89	0.08	0.03
9	0.15	0.28	0.04	0.14	0.62	0.23	0.14	0.62	0.23	0.14	0.62	0.23
10	-0.15	0.64	0.30	-0.16	0.16	0.62	-0.16	0.16	0.62	-0.16	0.16	0.62
11	0.84	0.02	-0.18	0.87	0.08	-0.01	0.87	0.08	-0.01	0.87	0.08	-0.01
12	0.17	0.33	0.01	0.16	0.64	0.27	0.16	0.64	0.27	0.16	0.64	0.27

Correlation between 3-factor log (PEMA) and log(Fluxomic) from on *Pichia Pastoris* simulated da

Simulated flux with out noise	Without noise			With 2% Error			With 5% Error			With 10% Error		
1	0.13	0.59	0.71	0.06	0.76	0.59	0.86	0.06	0.59	0.86	0.45	-0.05
2	1.00	-0.08	0.37	0.95	0.57	-0.08	0.28	0.95	-0.08	0.28	0.48	0.94
3	0.34	0.37	0.99	0.28	0.61	0.37	0.72	0.28	0.37	0.72	0.39	0.18
4	0.05	0.79	0.63	0.07	0.58	0.79	0.68	0.07	0.79	0.68	0.60	-0.07
5	0.83	-0.16	0.25	0.74	0.29	-0.16	0.12	0.74	-0.16	0.12	0.20	0.74
6	0.34	0.41	0.98	0.29	0.60	0.41	0.71	0.29	0.41	0.71	0.43	0.18
7	0.17	0.37	0.72	0.03	0.86	0.37	0.95	0.03	0.37	0.95	0.26	-0.04
8	0.99	-0.07	0.37	0.95	0.60	-0.07	0.29	0.95	-0.07	0.29	0.51	0.92
9	0.31	0.46	0.96	0.29	0.53	0.46	0.65	0.29	0.46	0.65	0.46	0.18
10	0.06	0.76	0.64	0.06	0.61	0.76	0.72	0.06	0.76	0.72	0.58	-0.07
11	0.97	0.00	0.38	0.96	0.57	0.00	0.26	0.96	0.00	0.26	0.58	0.92
12	0.34	0.37	0.98	0.28	0.60	0.37	0.71	0.28	0.37	0.71	0.39	0.18

Table 3 : Here we calculate correlation of individual principal fluxes derived from PFMA and PEMA with cleaned fluxomic data. For both model we have considered first 3 principal fluxes. For noise-free fluxomic Data correlations between fluxes or pc's are similar. But with increase of noise in input fluxomic data PEMA result deviates a lot and hence resultant principal fluxes remain no more correlated with noise-free fluxes. While the proposed PFMA able to find highly correlated principal fluxes from noisy fluxomic data .

(All correlations are calculated in log scale)

With 20% Error

pc1	pc2	pc3
-0.09	0.16	0.72
0.89	0.08	0.08
0.18	0.63	0.36
-0.16	0.16	0.58
0.95	0.03	-0.07
0.17	0.60	0.36
-0.05	0.15	0.78
0.85	0.08	0.09
0.16	0.62	0.29
-0.15	0.16	0.60
0.82	0.08	0.04
0.18	0.64	0.35

ata

With 20% Error

0.45	0.14	0.47
0.48	0.04	0.21
0.39	0.61	0.72
0.60	0.16	0.52
0.20	-0.01	0.13
0.43	0.58	0.74
0.26	0.12	0.39
0.51	0.04	0.21
0.46	0.61	0.79
0.58	0.16	0.51
0.58	0.05	0.28
0.39	0.62	0.73

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