

																																												metric_grp				metric_grp																																																																																																																																																																																																																																													
																																												0.8		0.6		0.4		0.2		ATAC down		Both down		RNA down																																																																																																																																																																																																																																					
0.32	0.40	0.49	0.50	0.93	0.89	0.49	0.41	0.28	0.31	0.51	0.52	0.94	0.91	0.55	0.58	0.18	0.00	0.32	0.53	0.18	0.23	0.28	0.30	0.87	0.80	0.45	0.40	0.32	0.32	0.57	0.56	0.96	0.96	0.55	0.59	0.21	0.00	0.33	0.49	0.13	0.15	0.24	0.25	0.85	0.76	0.39	0.41	0.27	0.30	0.50	0.53	0.94	0.91	0.54	0.58	0.25	0.00	0.26	0.43	bindSC																																																																																																																																																																																																																																	
0.63	0.54	0.75	0.69	0.98	0.98	0.52	0.51	0.55	0.61	0.68	0.68	0.96	0.97	0.46	0.48	0.07	0.01	0.68	0.82	0.47	0.55	0.61	0.62	0.95	0.93	0.47	0.48	0.61	0.60	0.73	0.71	0.97	0.97	0.46	0.50	0.09	0.00	0.62	0.77	0.44	0.60	0.61	0.66	0.92	0.88	0.52	0.50	0.46	0.59	0.62	0.66	0.94	0.92	0.52	0.52	0.16	0.00	0.52	0.71	GLUE																																																																																																																																																																																																																																	
0.53	0.49	0.72	0.67	0.98	0.98	0.55	0.53	0.29	0.41	0.38	0.42	0.89	0.83	0.48	0.44	0.29	0.00	0.23	0.40	0.11	0.12	0.22	0.21	0.84	0.72	0.38	0.41	0.17	0.22	0.22	0.24	0.83	0.72	0.46	0.43	0.37	0.00	0.19	0.31	0.12	0.15	0.22	0.22	0.85	0.74	0.39	0.38	0.01	0.02	0.03	0.03	0.73	0.52	0.44	0.45	0.44	0.00	0.17	0.27	LIGER iNMF																																																																																																																																																																																																																																	
0.42	0.44	0.64	0.62	0.96	0.95	0.48	0.52	0.10	0.14	0.17	0.19	0.81	0.69	0.45	0.45	0.35	0.00	0.30	0.46	0.10	0.13	0.18	0.18	0.83	0.72	0.40	0.37	0.12	0.16	0.18	0.20	0.80	0.68	0.42	0.43	0.41	0.00	0.20	0.32	0.08	0.11	0.17	0.17	0.83	0.71	0.41	0.37	0.02	0.02	0.04	0.04	0.71	0.51	0.48	0.41	0.46	0.00	0.17	0.26	LIGER online iNMF																																																																																																																																																																																																																																	
0.51	0.46	0.70	0.66	0.98	0.98	0.58	0.52	0.27	0.37	0.37	0.41	0.89	0.85	0.40	0.41	0.38	0.00	0.28	0.43	0.14	0.16	0.23	0.23	0.84	0.73	0.29	0.35	0.41	0.52	0.53	0.57	0.91	0.89	0.49	0.47	0.40	0.00	0.17	0.28	0.10	0.12	0.17	0.17	0.83	0.71	0.40	0.38	0.01	0.01	0.02	0.03	0.72	0.49	0.44	0.43	0.46	0.00	0.16	0.26	LIGER UINMF																																																																																																																																																																																																																																	
0.47	0.56	0.62	0.66	0.91	0.83	0.59	0.53	0.35	0.48	0.52	0.56	0.93	0.89	0.52	0.61	0.30	0.00	0.43	0.60	0.39	0.46	0.51	0.53	0.89	0.84	0.60	0.48	0.54	0.50	0.69	0.67	0.98	0.98	0.53	0.63	0.29	0.00	0.56	0.70	0.35	0.41	0.41	0.44	0.85	0.73	0.58	0.48	0.34	0.44	0.51	0.55	0.93	0.90	0.51	0.62	0.34	0.00	0.39	0.57	MaxFuse																																																																																																																																																																																																																																	
0.22	0.21	0.53	0.52	0.96	0.96	0.65	0.54	0.17	0.17	0.40	0.40	0.93	0.88	0.47	0.56	0.23	0.00	0.40	0.59	0.22	0.23	0.46	0.47	0.94	0.92	0.63	0.51	0.21	0.21	0.48	0.48	0.95	0.95	0.53	0.60	0.21	0.00	0.40	0.58	0.18	0.19	0.45	0.46	0.92	0.89	0.46	0.54	0.18	0.21	0.41	0.42	0.92	0.88	0.52	0.56	0.21	0.00	0.39	0.58	MultiMAP																																																																																																																																																																																																																																	
0.05	0.04	0.16	0.15	0.80	0.67	0.46	0.48	0.01	0.00	0.03	0.02	0.67	0.43	0.46	0.53	0.50	0.00	0.10	0.14	0.01	0.02	0.06	0.05	0.72	0.49	0.52	0.49	0.01	0.01	0.03	0.02	0.69	0.46	0.47	0.53	0.50	0.00	0.10	0.16	0.01	0.01	0.02	0.02	0.69	0.44	0.51	0.49	0.00	0.00	0.03	0.02	0.67	0.43	0.47	0.50	0.50	0.00	0.09	0.15	Pamona																																																																																																																																																																																																																																	
0.59	0.58	0.71	0.69	0.97	0.97	0.58	0.51	0.24	0.30	0.34	0.37	0.86	0.79	0.50	0.54	0.21	0.00	0.44	0.64	0.25	0.33	0.39	0.42	0.90	0.84	0.66	0.55	0.45	0.57	0.58	0.61	0.95	0.94	0.49	0.50	0.23	0.00	0.42	0.61	0.26	0.35	0.36	0.39	0.89	0.83	0.59	0.55	0.21	0.27	0.29	0.32	0.85	0.75	0.50	0.54	0.30	0.00	0.31	0.47	SCALEX																																																																																																																																																																																																																																	
0.44	0.42	0.66	0.63	0.97	0.97	0.60	0.53	0.29	0.33	0.50	0.51	0.94	0.91	0.51	0.56	0.33	0.00	0.25	0.44	0.31	0.41	0.40	0.43	0.88	0.79	0.47	0.50	0.38	0.35	0.65	0.63	0.98	0.98	0.48	0.55	0.22	0.00	0.56	0.71	0.31	0.39	0.39	0.42	0.87	0.77	0.47	0.50	0.31	0.35	0.54	0.54	0.95	0.93	0.46	0.51	0.31	0.00	0.40	0.57	Seurat v3 CCA																																																																																																																																																																																																																																	
0.40	0.40	0.64	0.62	0.97	0.97	0.59	0.53	0.25	0.27	0.47	0.49	0.93	0.89	0.43	0.49	0.17	0.00	0.47	0.64	0.31	0.39	0.38	0.42	0.87	0.79	0.47	0.50	0.33	0.31	0.59	0.58	0.97	0.98	0.44	0.56	0.22	0.00	0.54	0.69	0.32	0.40	0.39	0.42	0.88	0.79	0.47	0.50	0.22	0.24	0.47	0.49	0.92	0.89	0.47	0.54	0.27	0.00	0.40	0.56	Seurat v4 RPCA																																																																																																																																																																																																																																	
0.58	0.52	0.72	0.67	0.98	0.98	0.57	0.51	0.25	0.32	0.37	0.40	0.91	0.86	0.50	0.50	0.20	0.00	0.41	0.58	0.34	0.47	0.46	0.50	0.93	0.88	0.50	0.48	0.50	0.55	0.61	0.62	0.95	0.96	0.54	0.52	0.18	0.00	0.42	0.61	0.30	0.35	0.38	0.40	0.90	0.83	0.51	0.49	0.18	0.24	0.24	0.26	0.85	0.77	0.46	0.51	0.31	0.00	0.31	0.47	SIMBA																																																																																																																																																																																																																																	
0.37	0.32	0.66	0.61	0.98	0.99	0.39	0.50	0.04	0.05	0.09	0.09	0.78	0.64	0.44	0.53	0.35	0.00	0.16	0.26	0.12	0.13	0.25	0.25	0.86	0.75	0.47	0.46	0.18	0.18	0.30	0.31	0.89	0.83	0.48	0.50	0.38	0.00	0.19	0.30	0.13	0.13	0.25	0.25	0.86	0.74	0.45	0.45	0.08	0.09	0.14	0.14	0.80	0.68	0.45	0.51	0.46	0.00	0.11	0.14	unionCom																																																																																																																																																																																																																																	
0.22	0.26	0.35	0.37	0.90	0.84	0.44	0.46	0.60	0.59	0.73	0.70	0.98	0.98	0.57	0.51	0.22	0.00	0.43	0.61	0.48	0.58	0.61	0.65	0.94	0.91	0.46	0.46	0.36	0.50	0.49	0.54	0.88	0.81	0.50	0.48	0.25	0.00	0.50	0.66	0.28	0.36	0.35	0.38	0.87	0.79	0.46	0.46	0.40	0.49	0.51	0.54	0.89	0.83	0.52	0.48	0.30	0.00	0.38	0.56	uniPort																																																																																																																																																																																																																																	
ARI, RNA (ATAC down)																																												Cell type level 1 match (Both down)				Cell type match (Both down)		FOSCTTM (Both down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC down)		isolated labels ASW, RNA (ATAC	