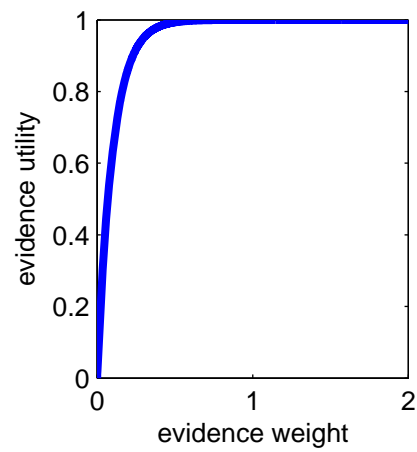


## MULTI-ARRANGEMENT RUN DOCUMENTATION

number of objects = 48, number of pairs = 1128

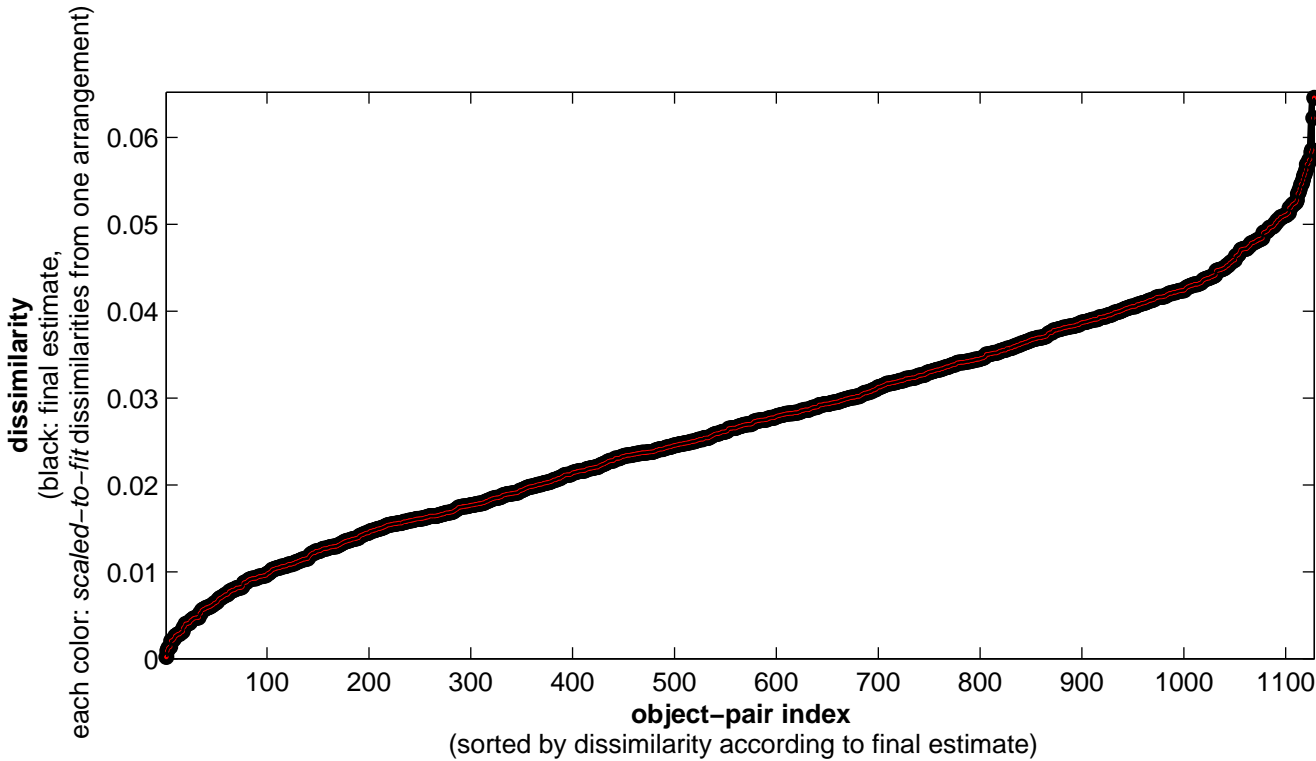
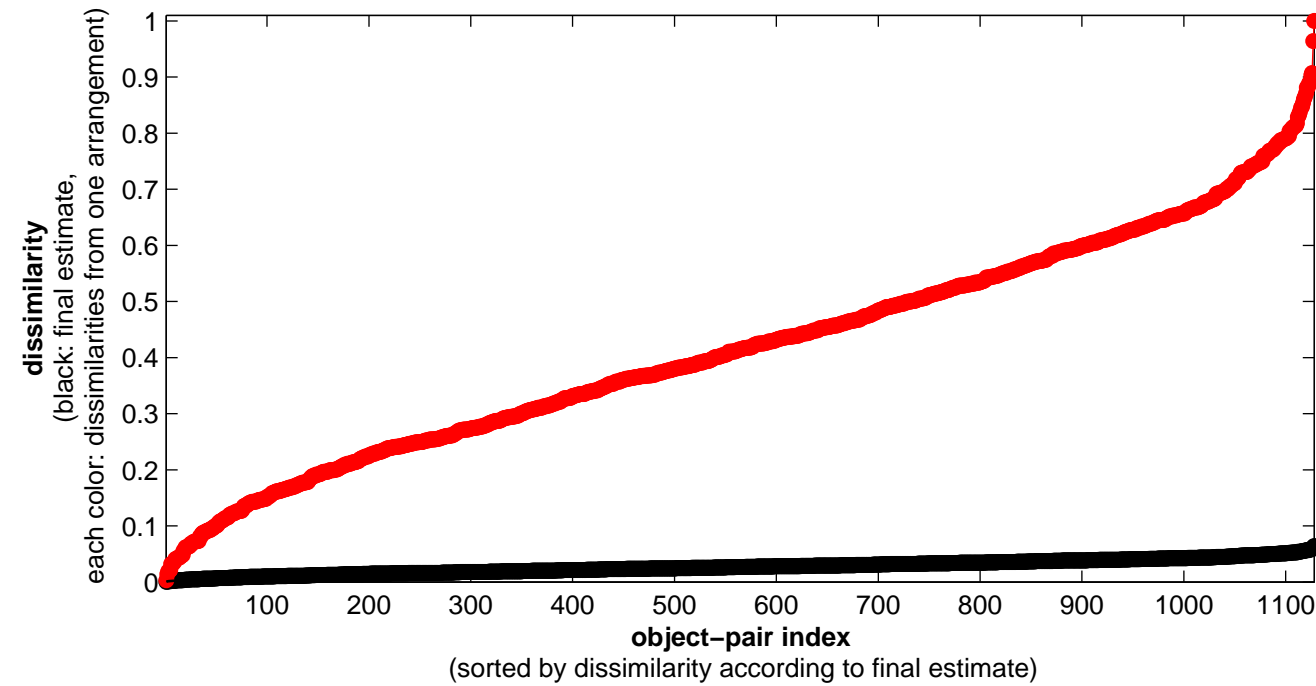
max number of objects per trial = Inf

arrangements simulated by MDS (for random ground-truth dissimilarity matrix)



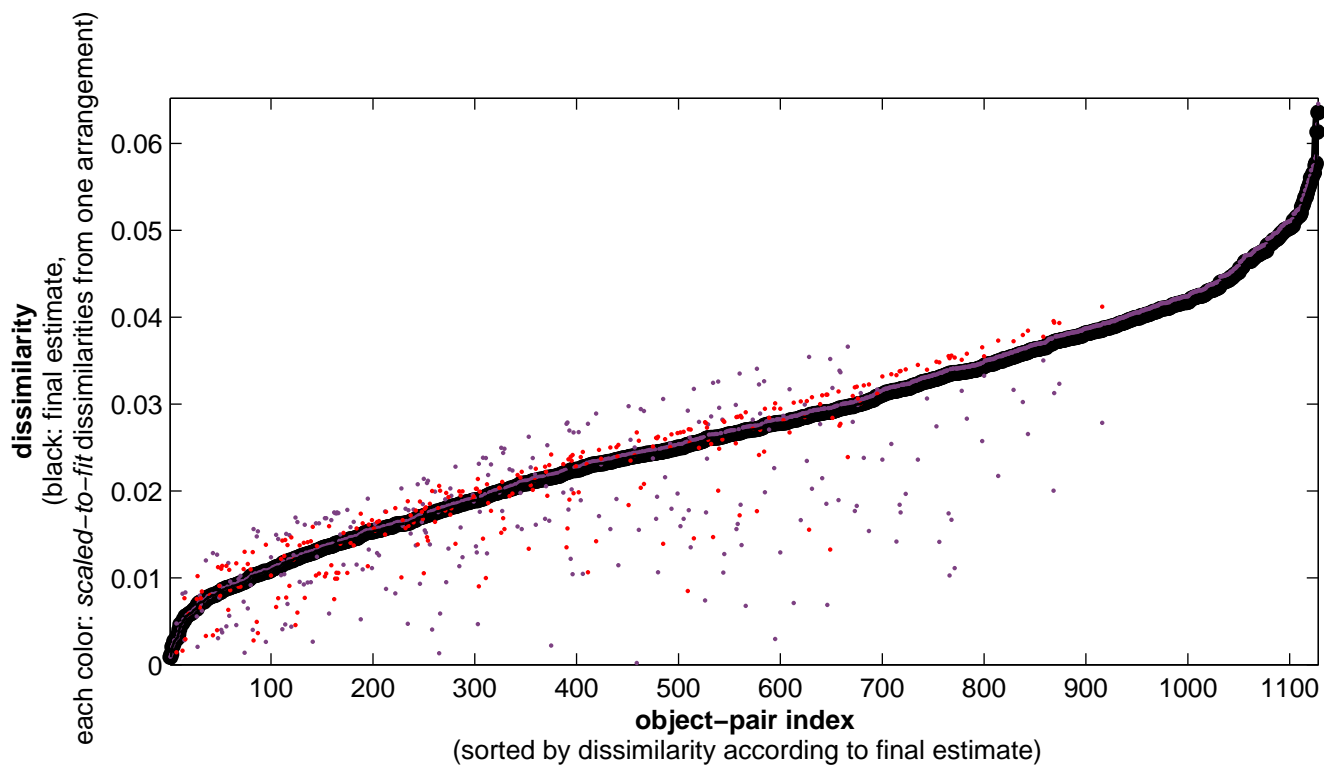
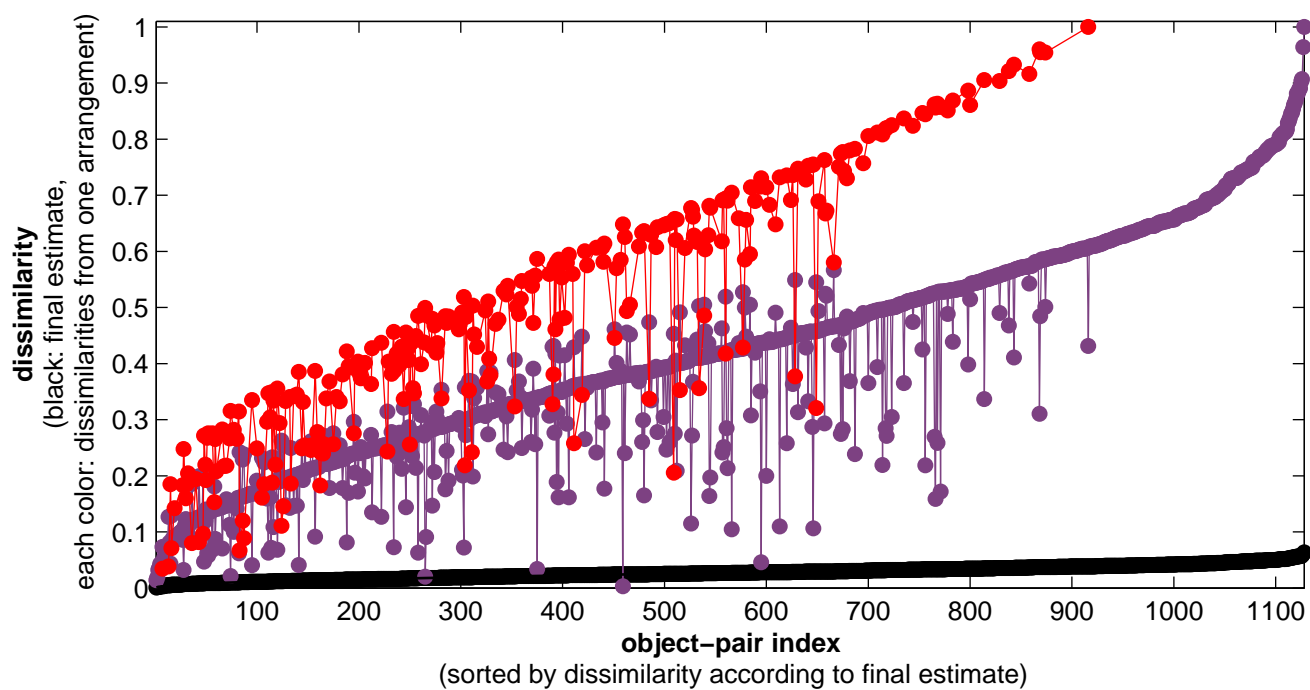
**MULTI-ARRANGEMENT**

number of objects = 48, number of pairs = 1128



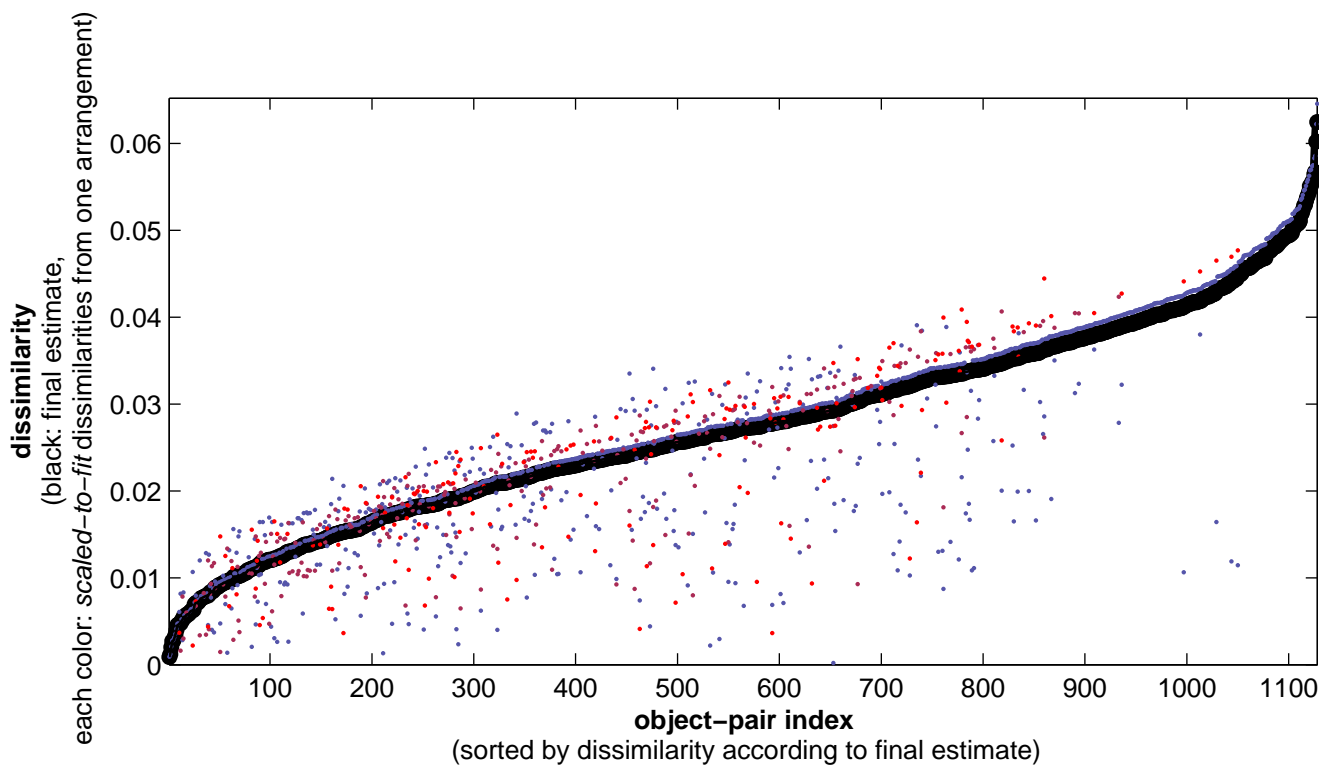
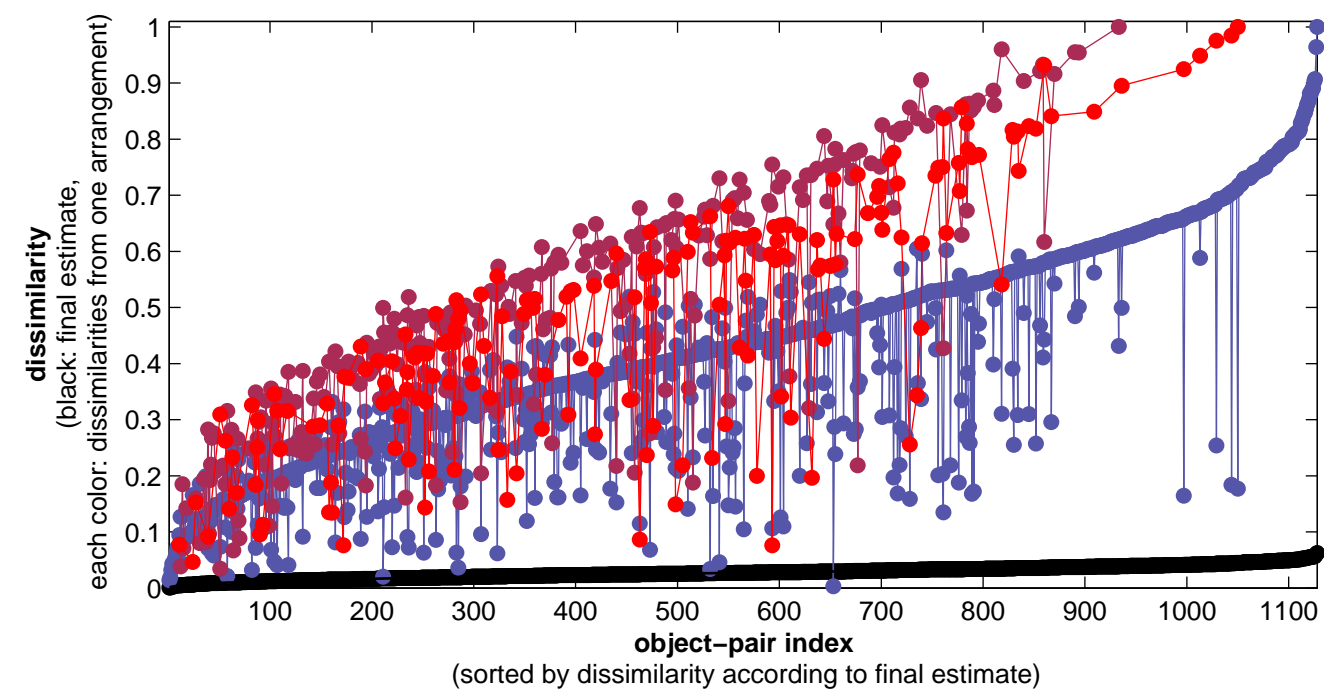
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



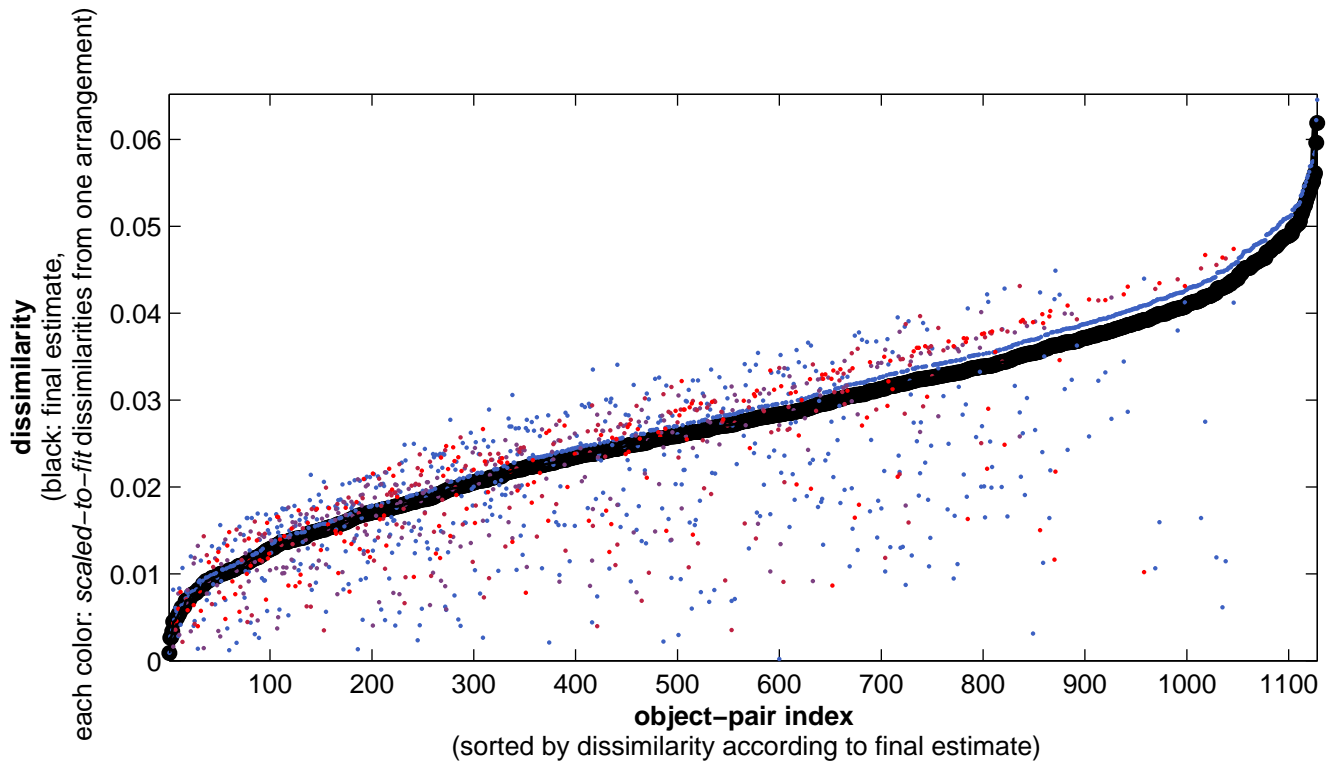
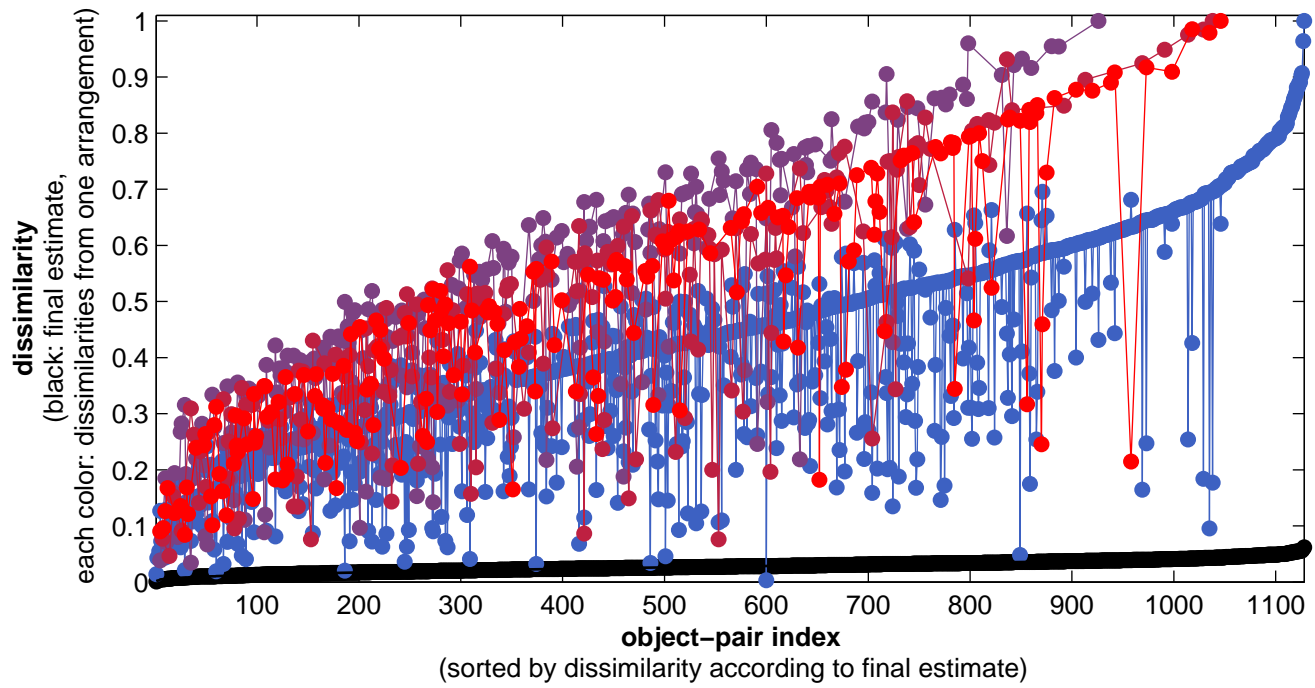
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



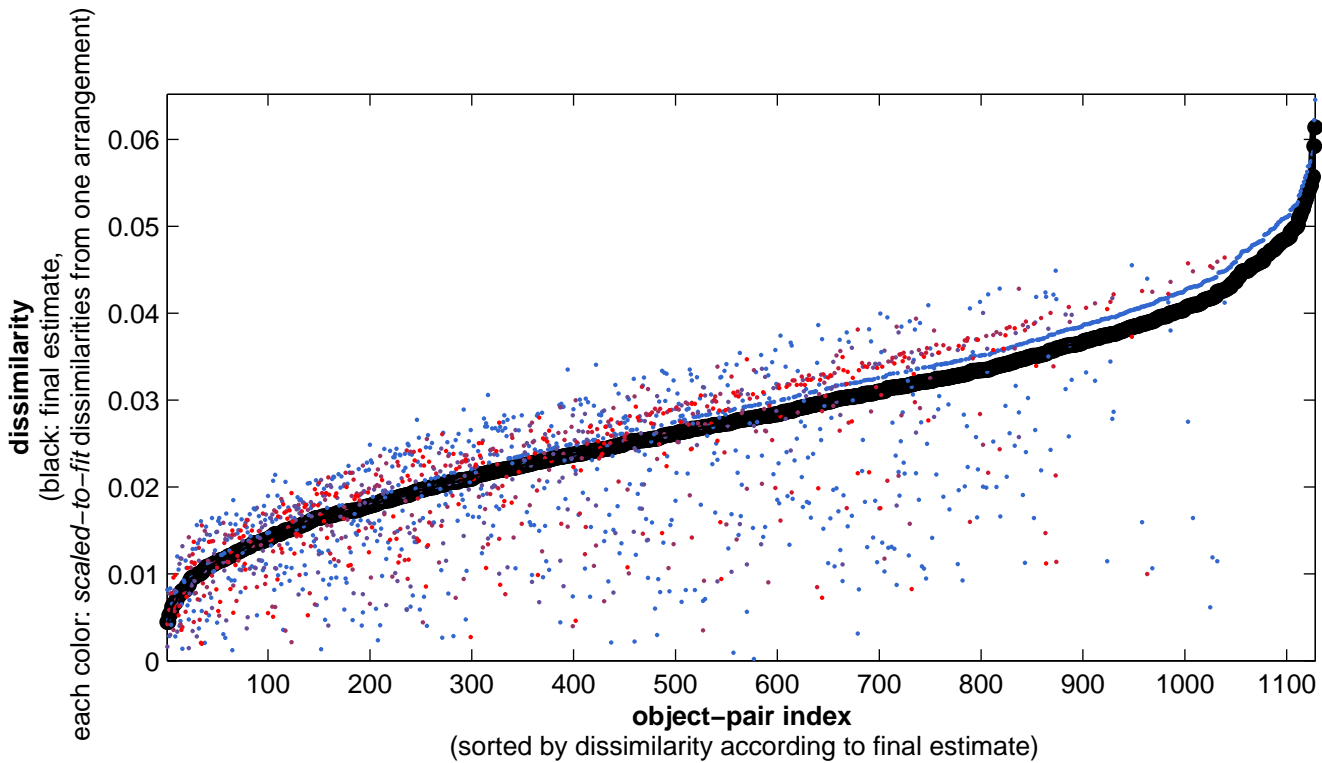
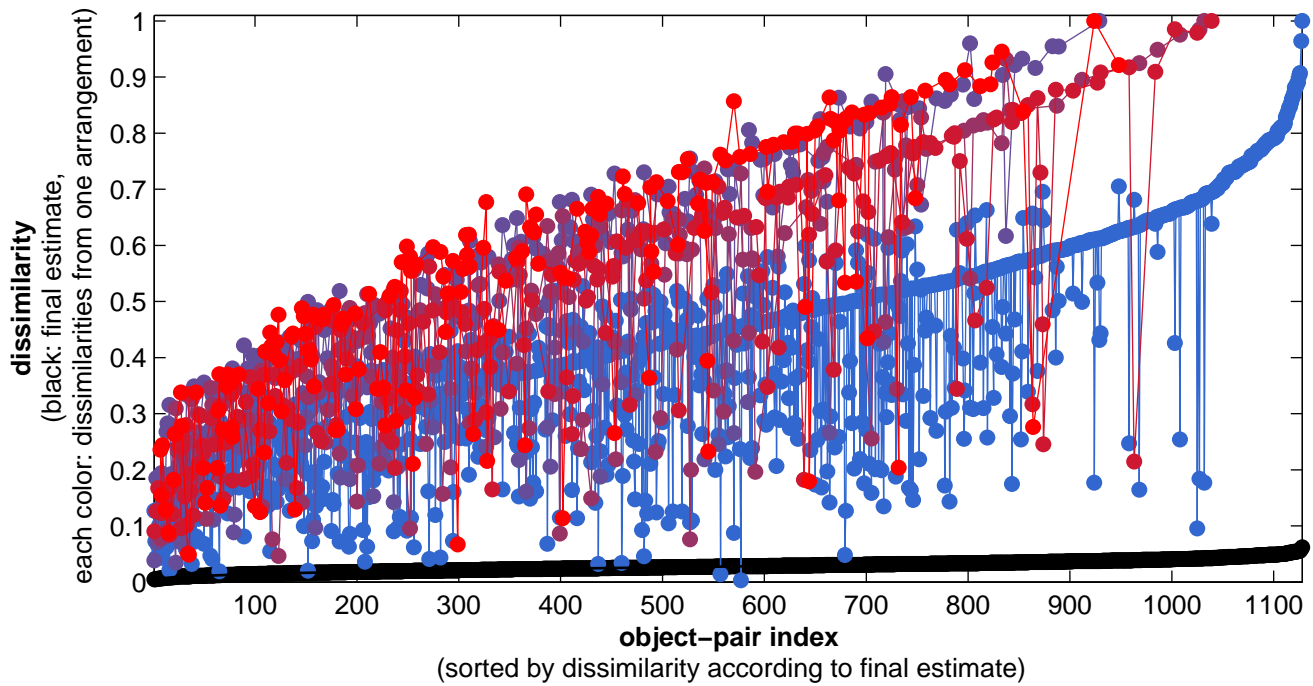
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



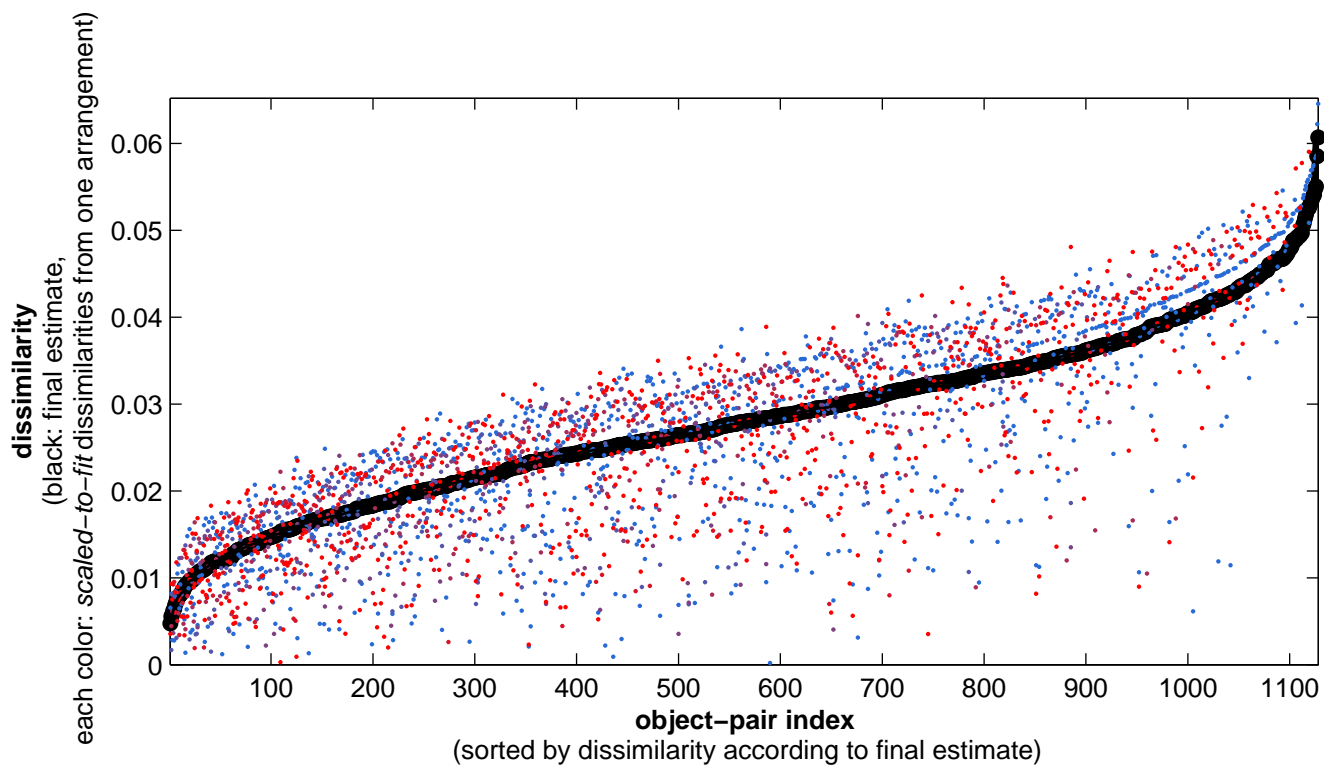
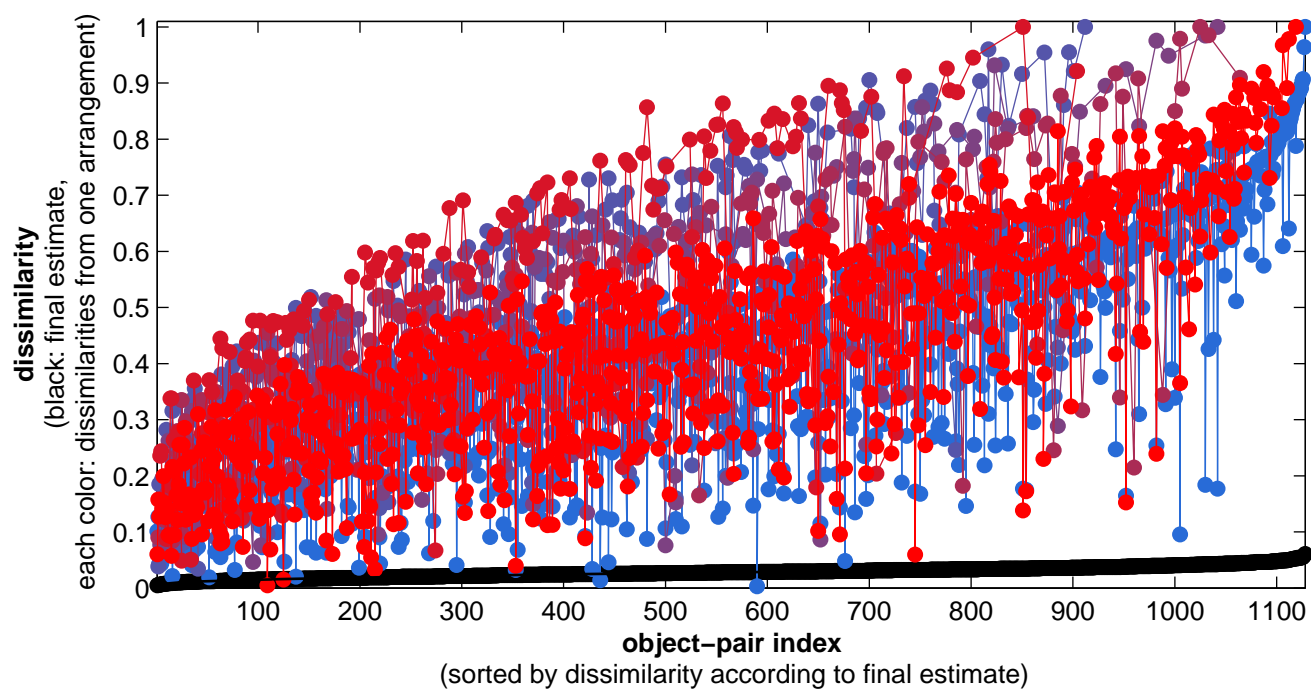
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



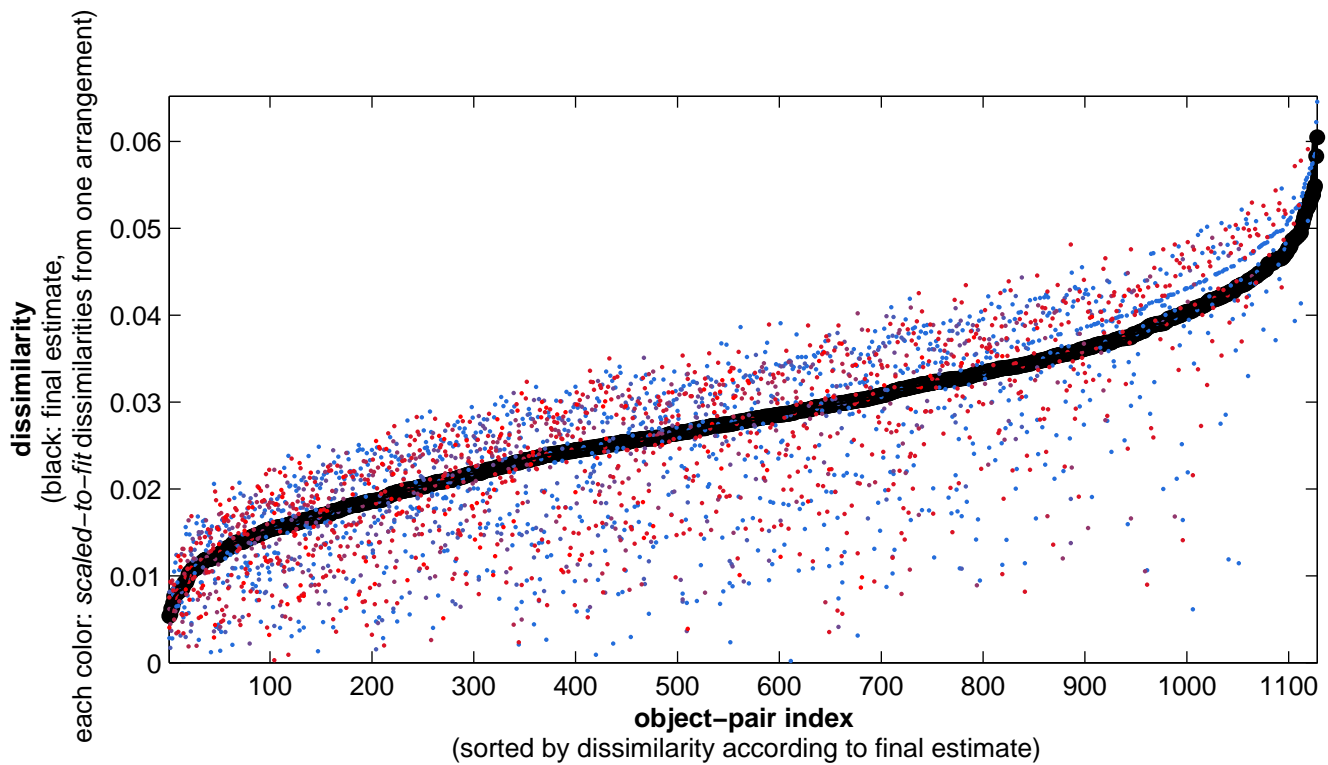
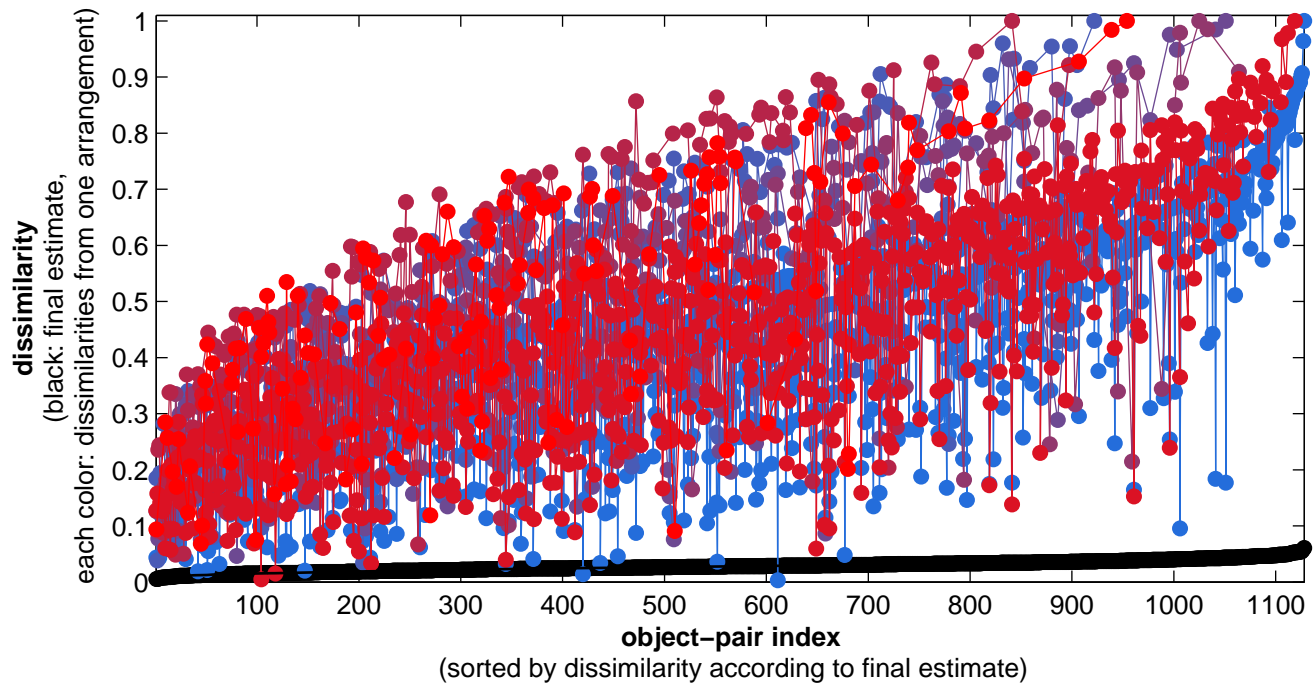
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



## MULTI-ARRANGEMENT

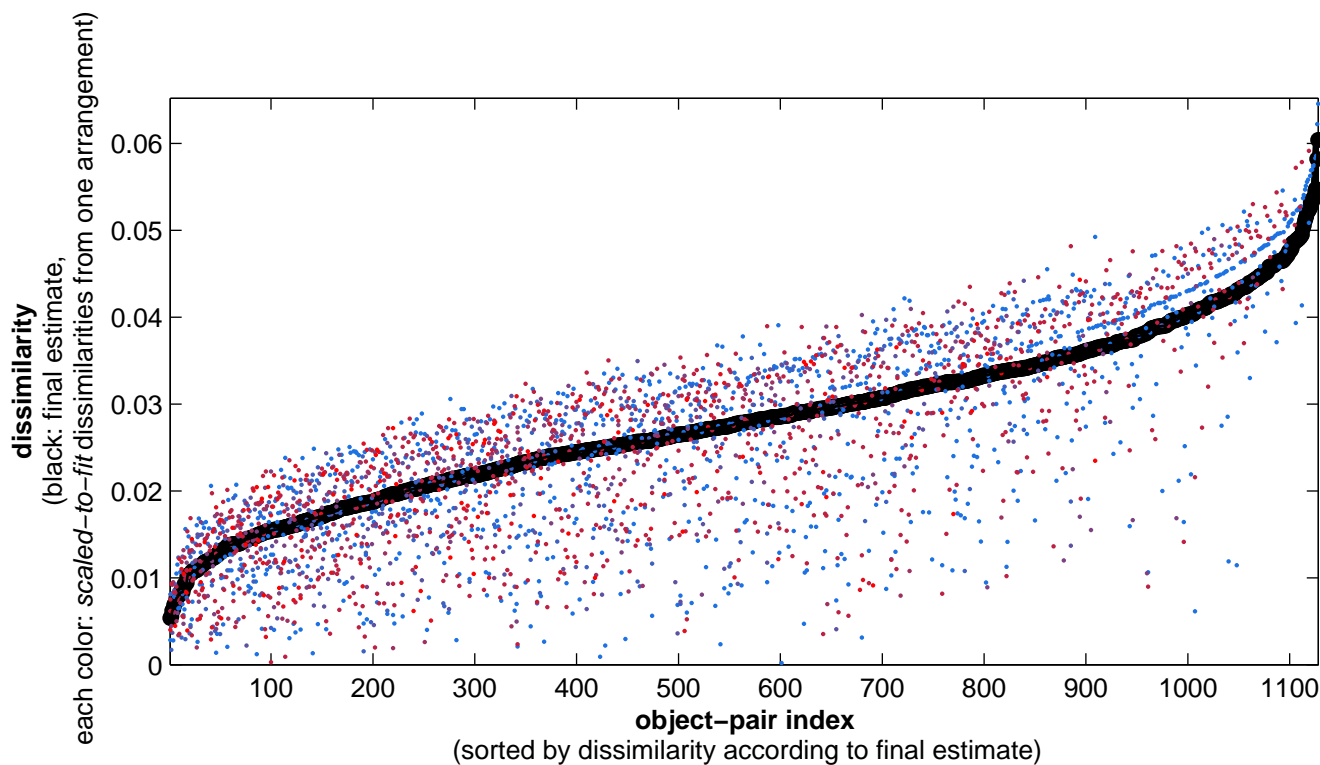
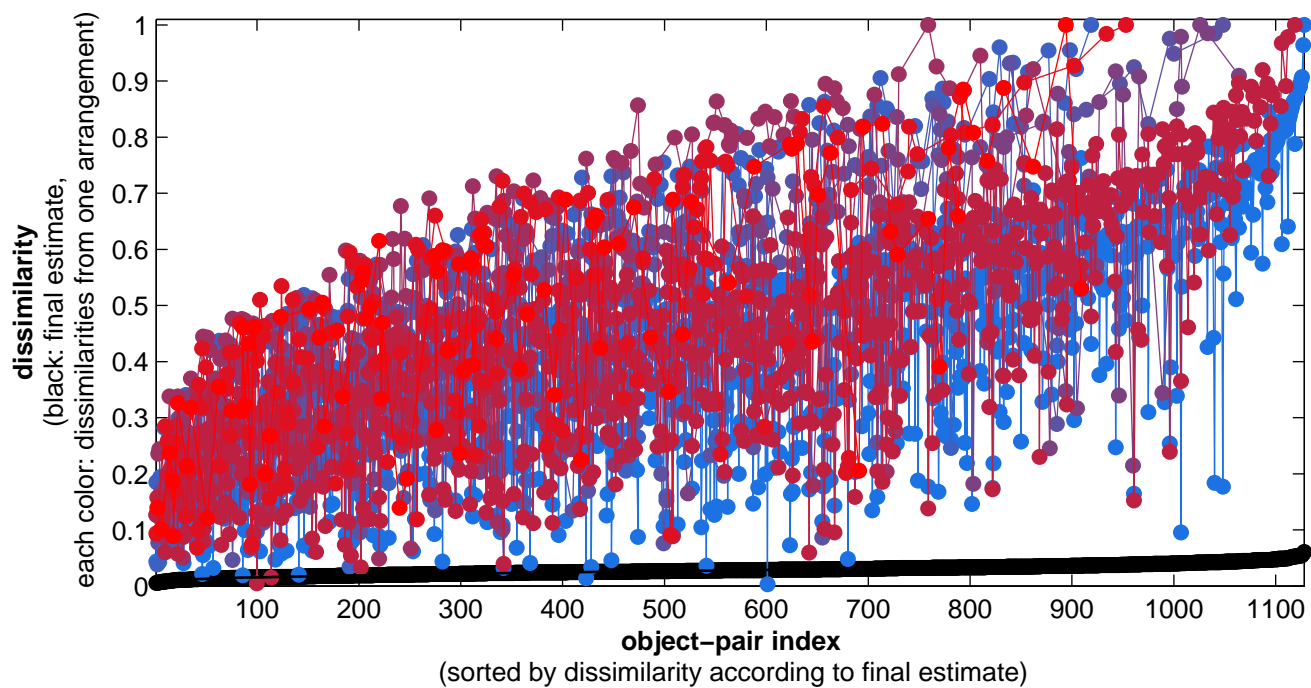
number of objects = 48, number of pairs = 1128





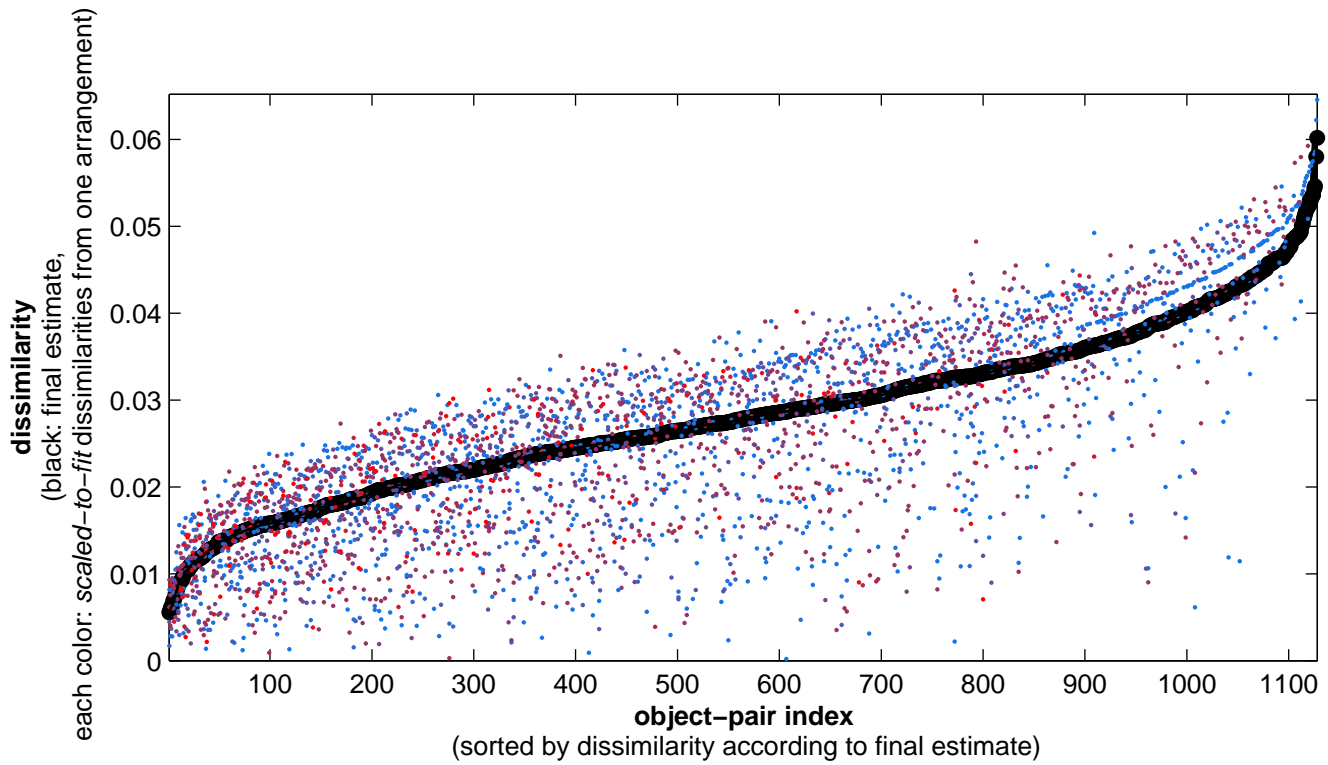
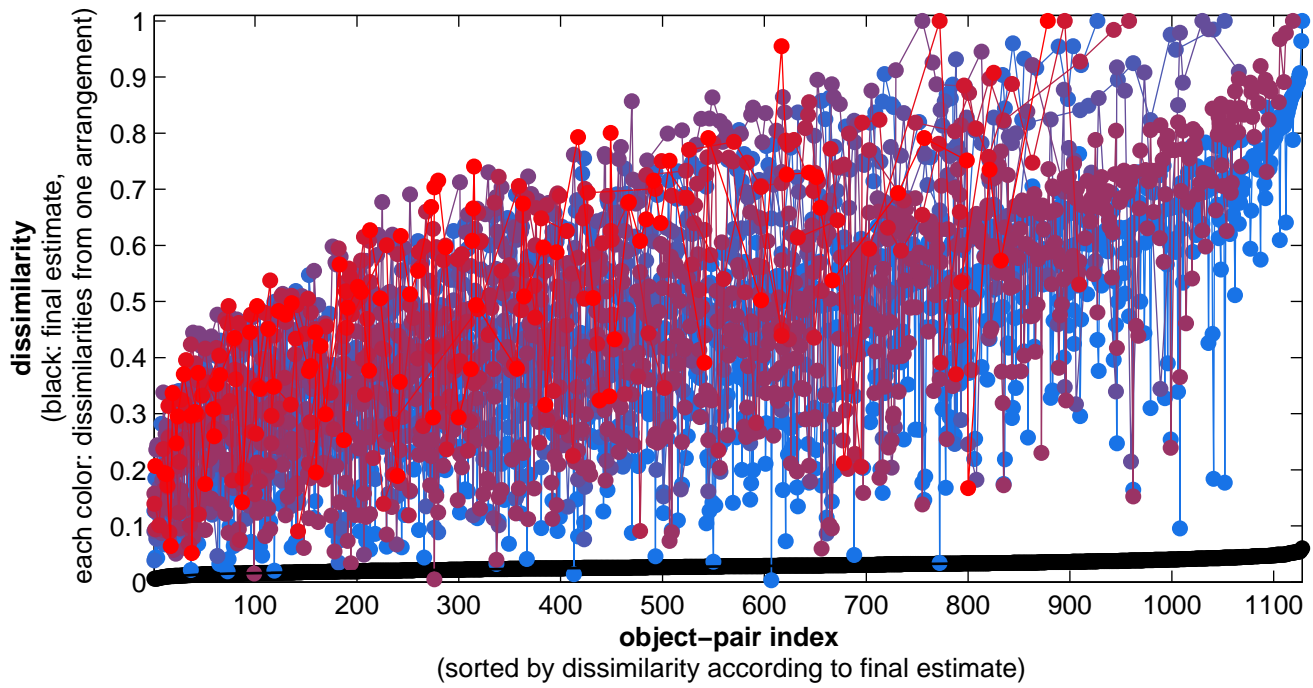
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



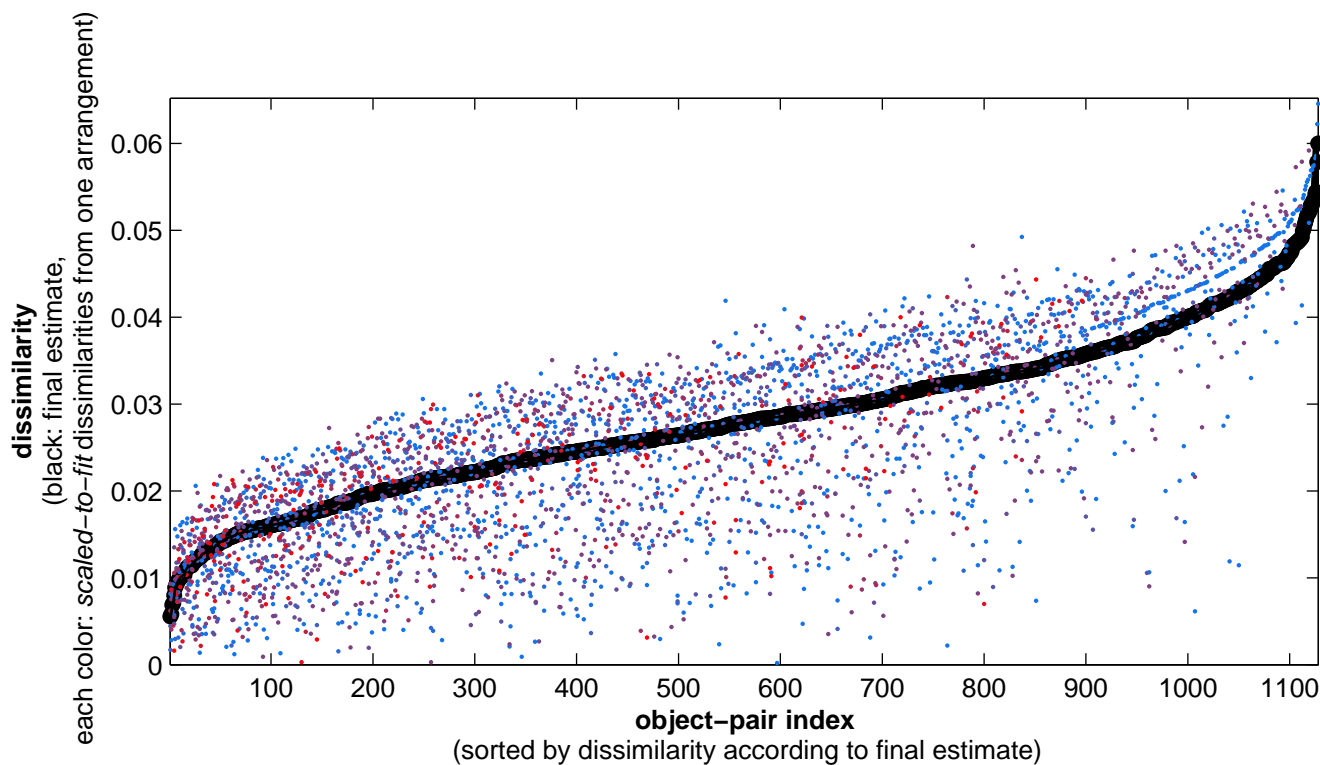
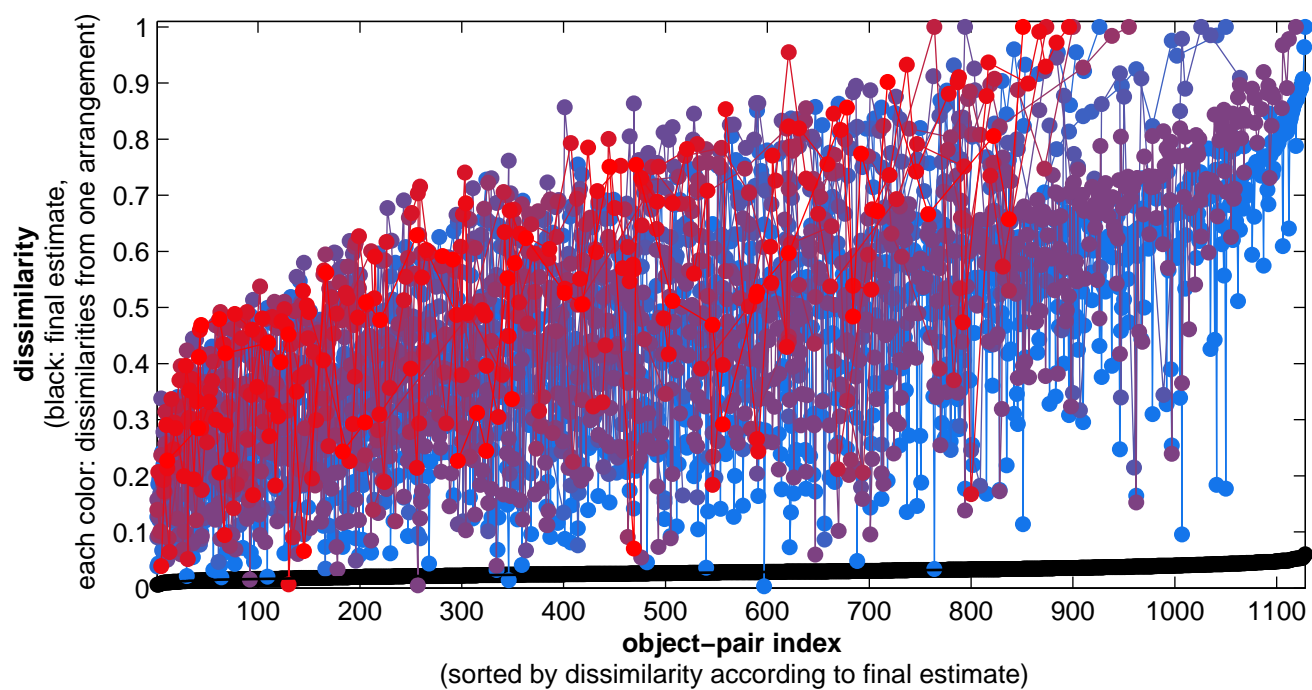
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



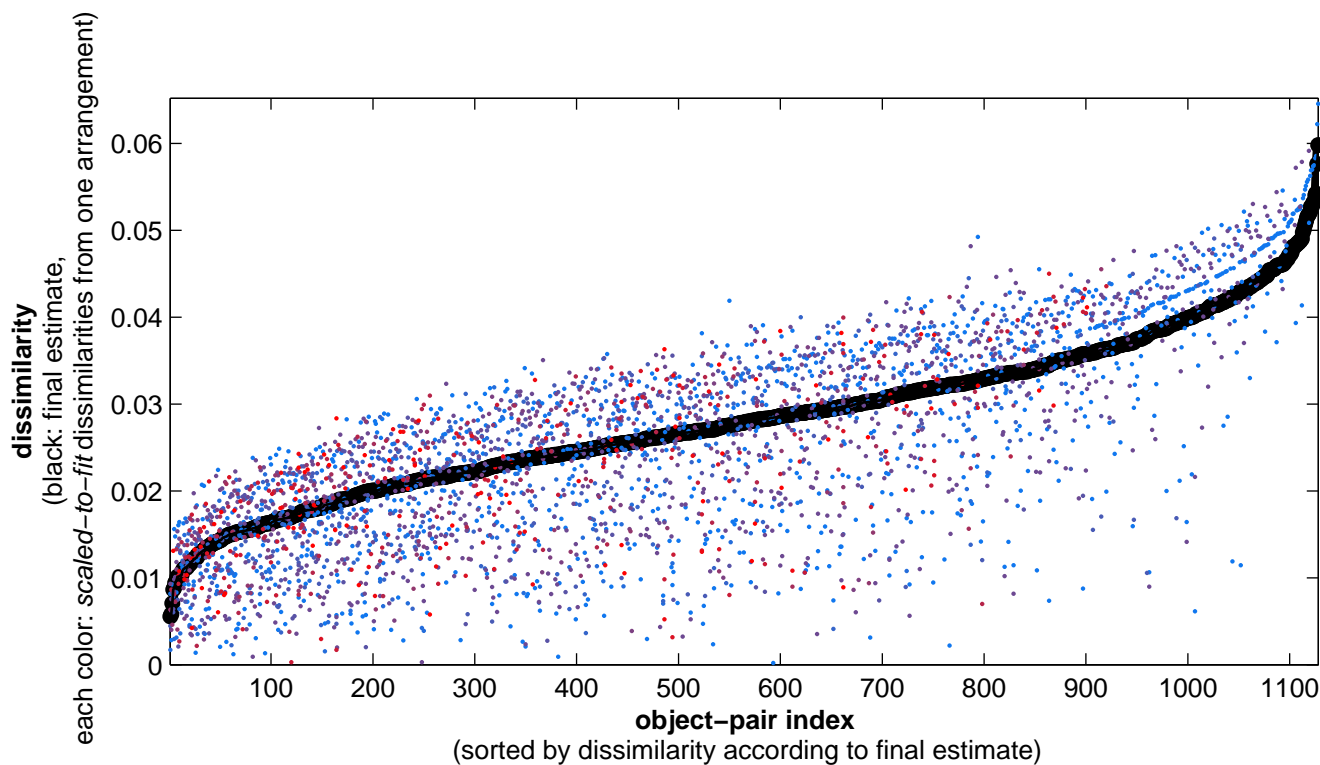
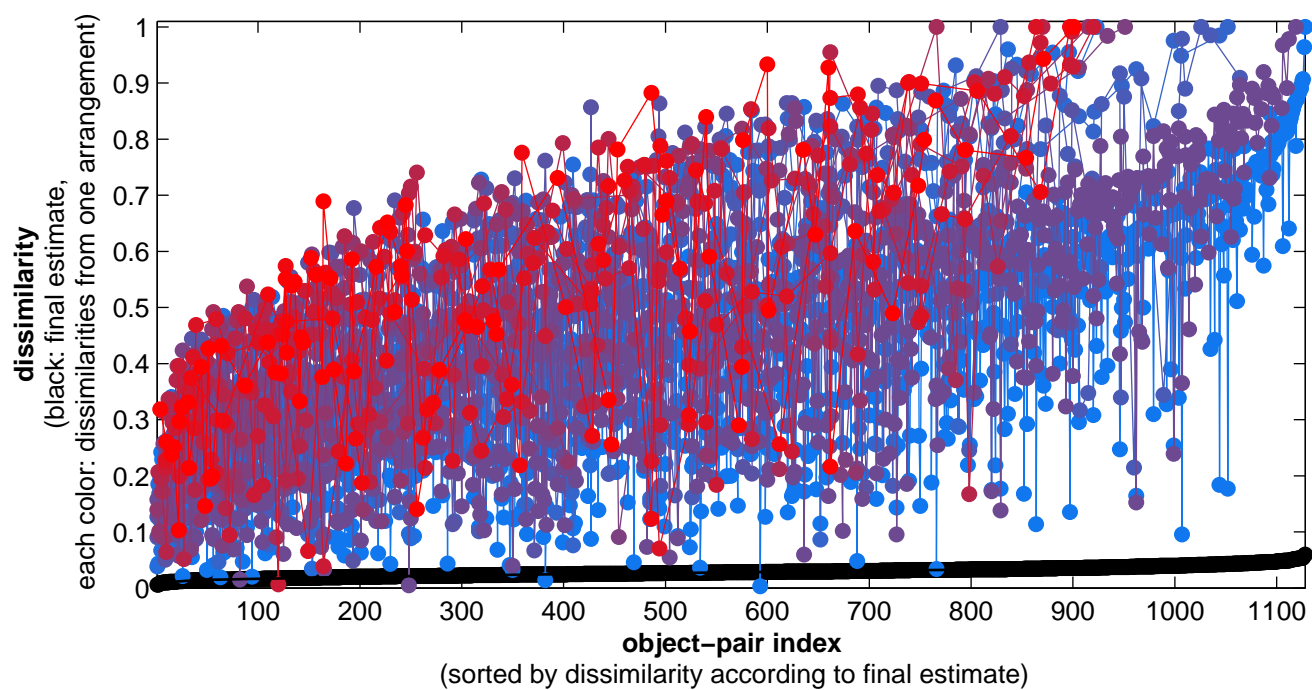
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



## MULTI-ARRANGEMENT

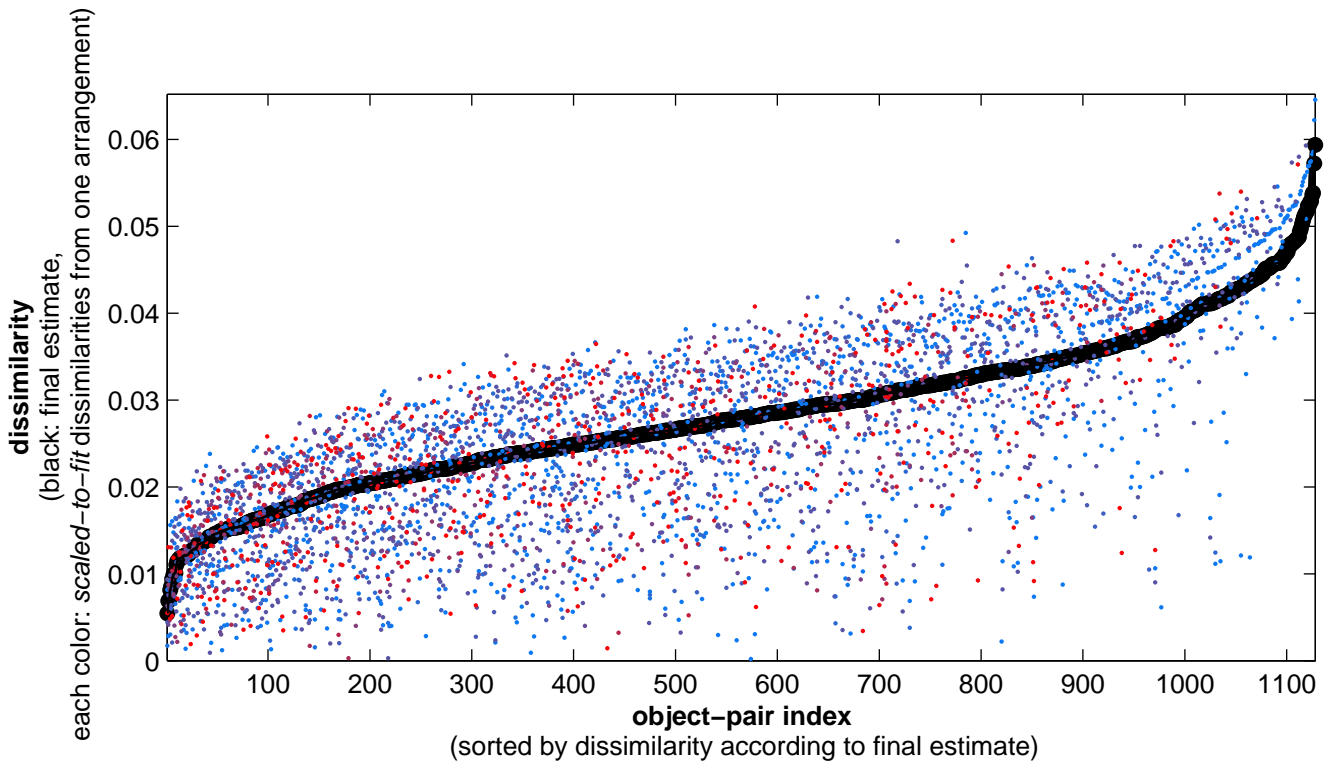
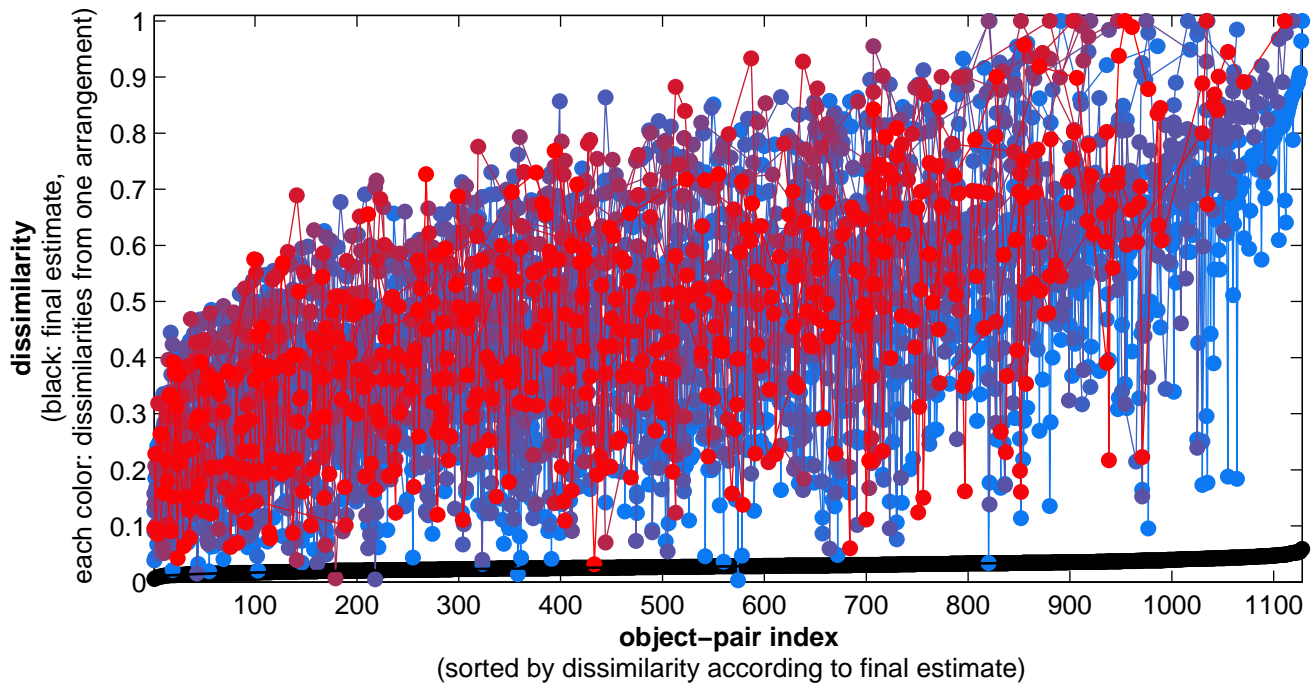
number of objects = 48, number of pairs = 1128





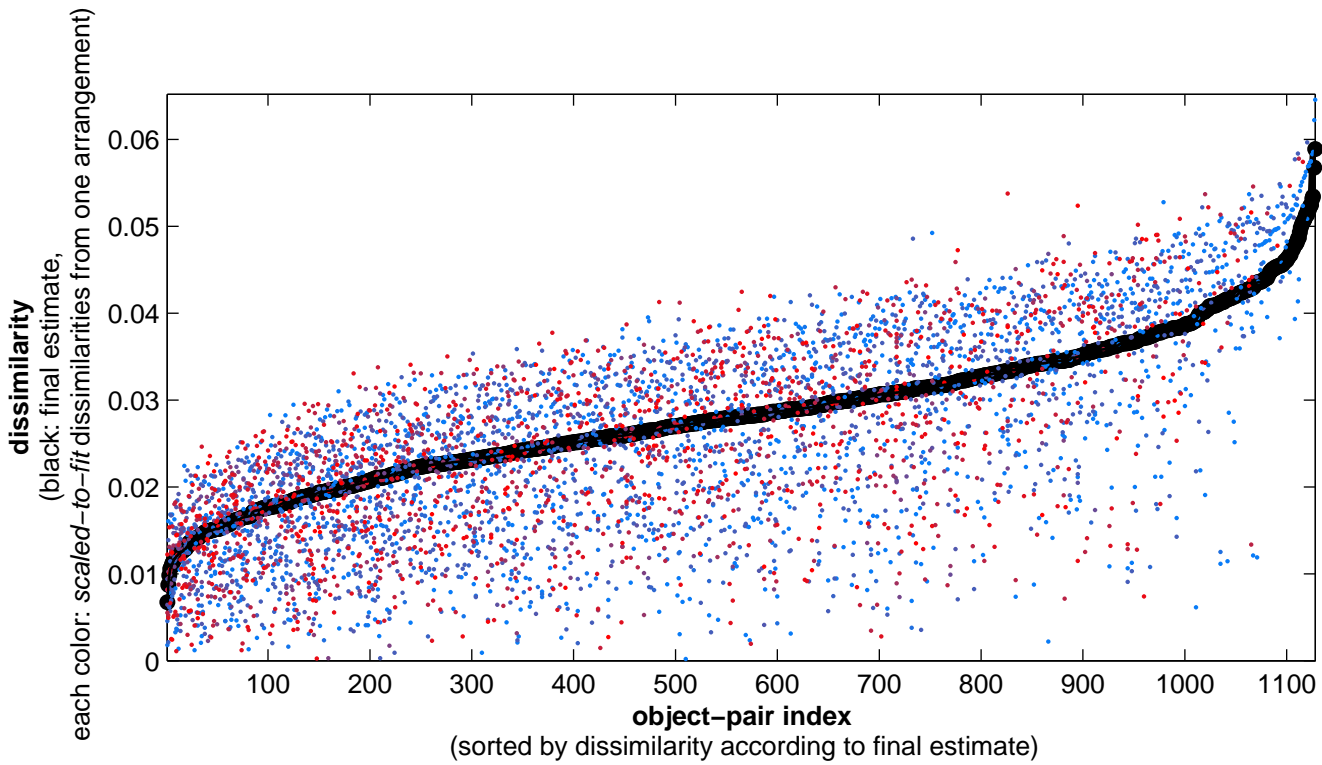
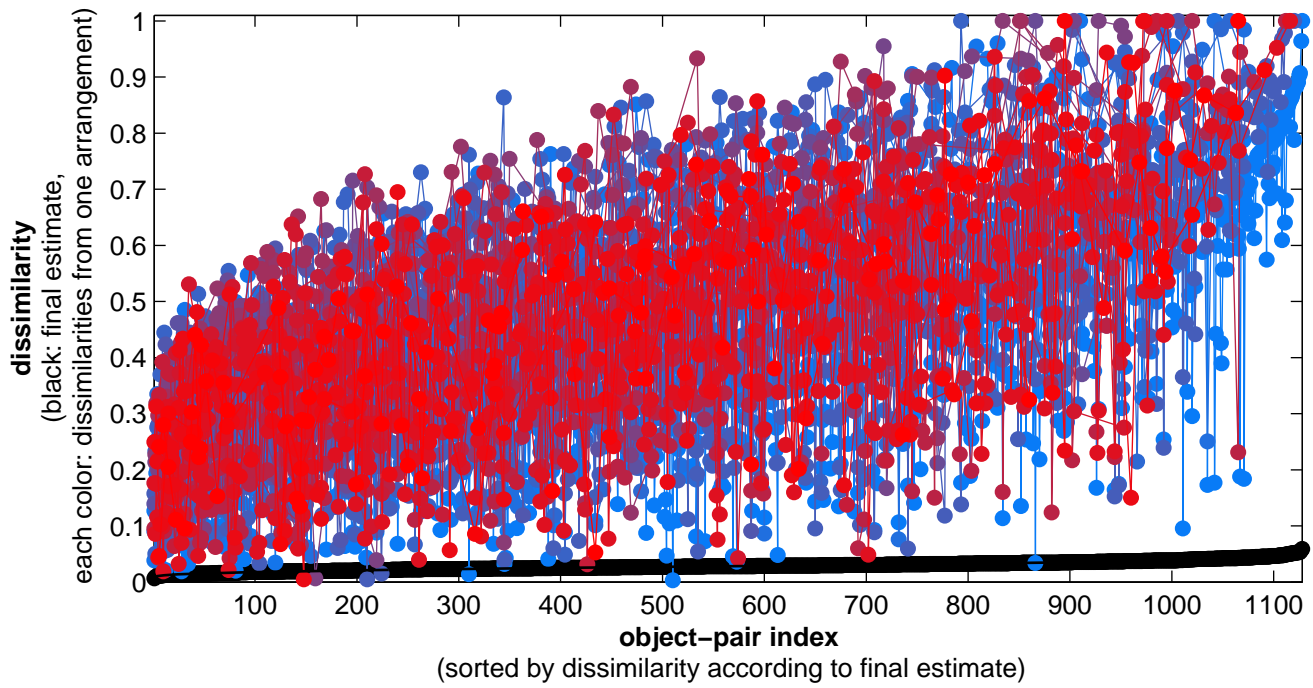
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



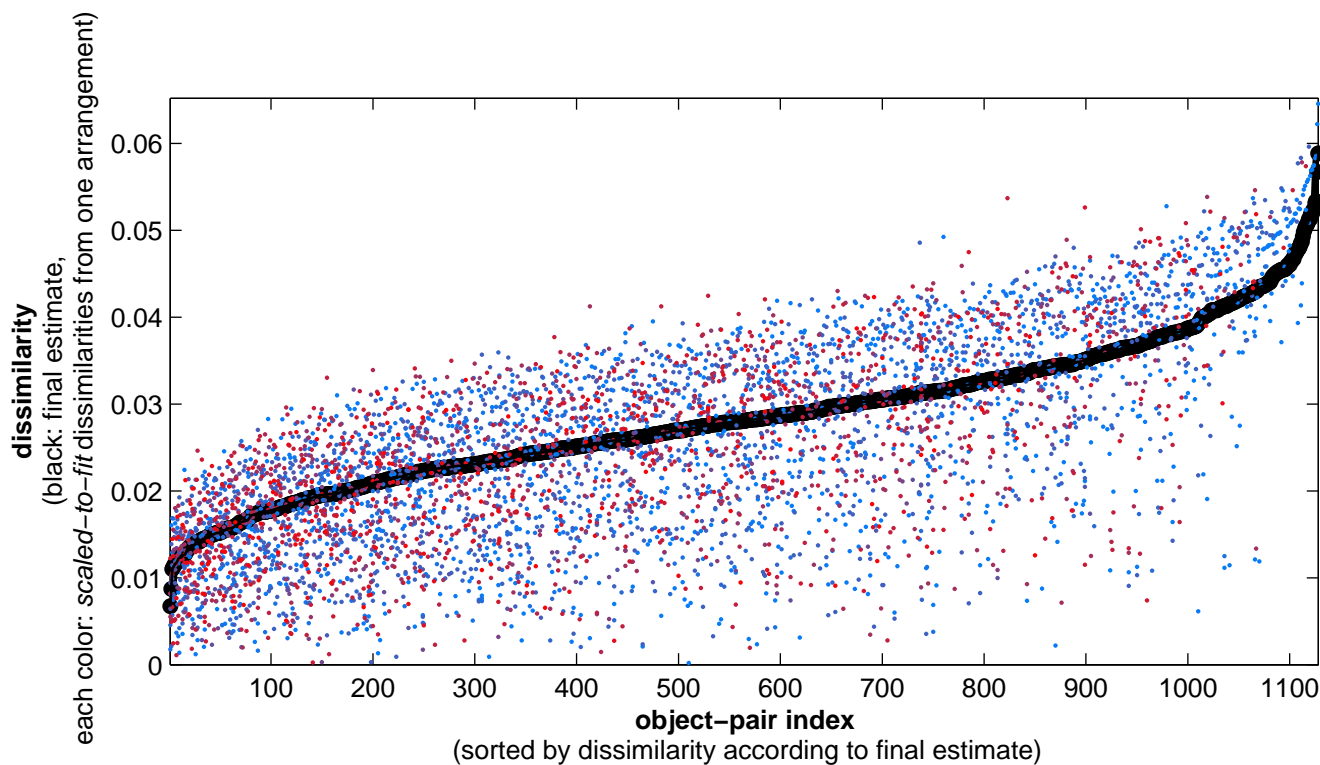
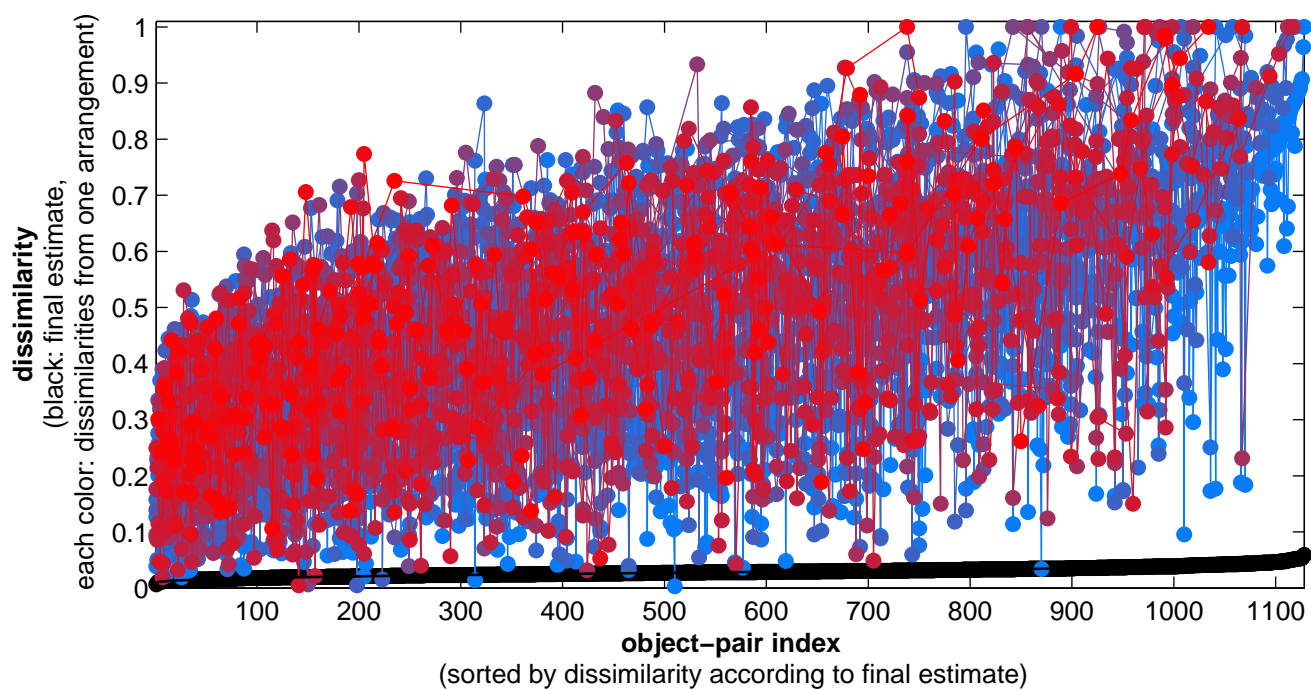
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



## MULTI-ARRANGEMENT

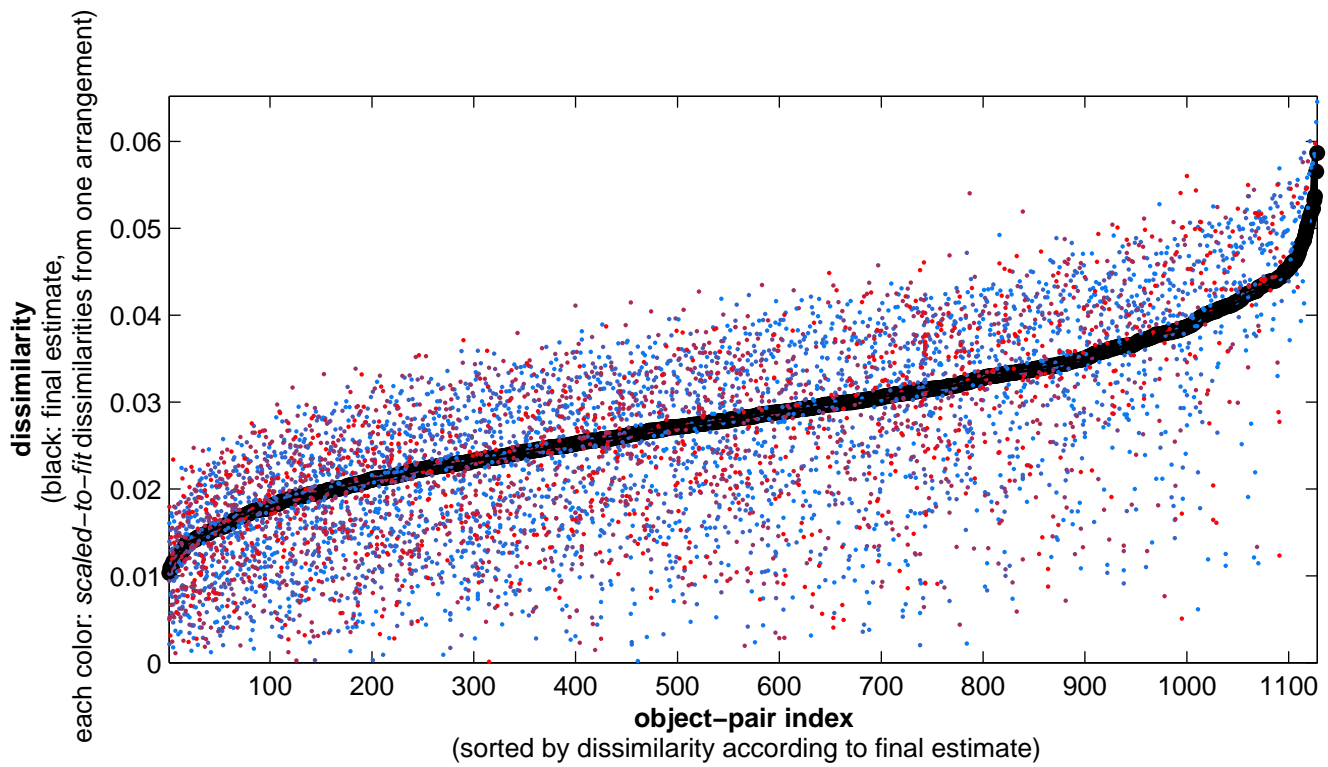
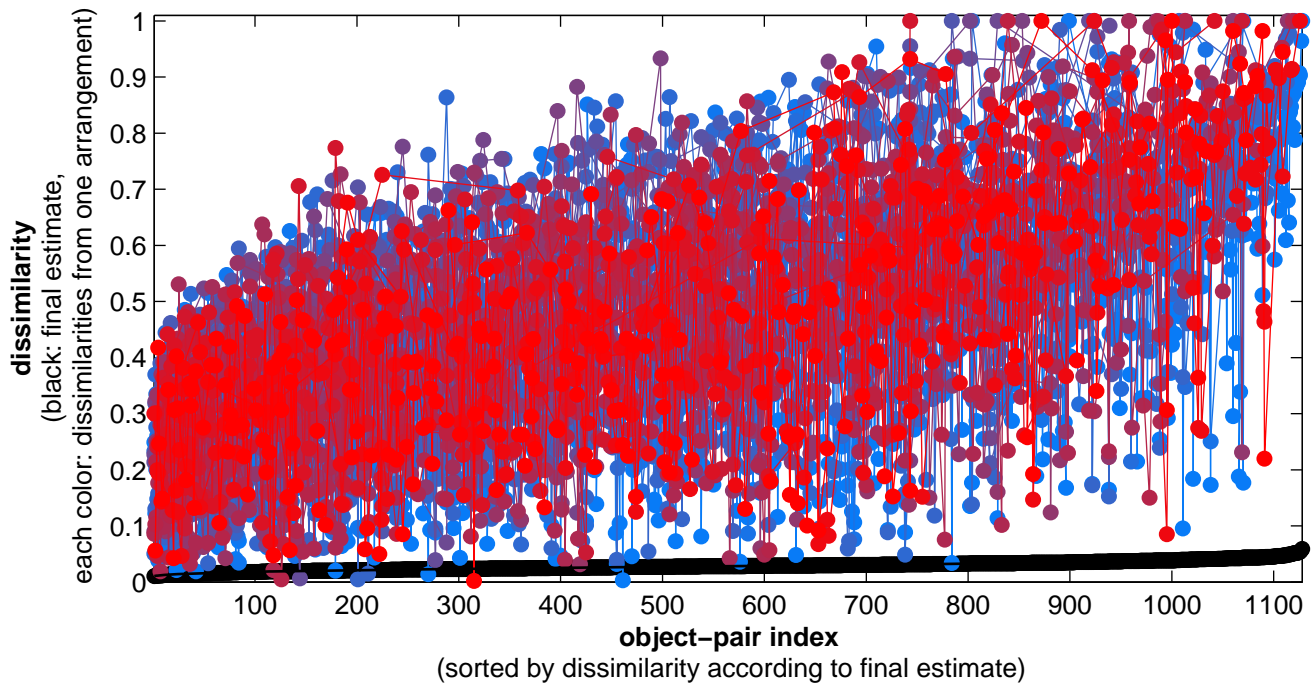
number of objects = 48, number of pairs = 1128





## MULTI-ARRANGEMENT

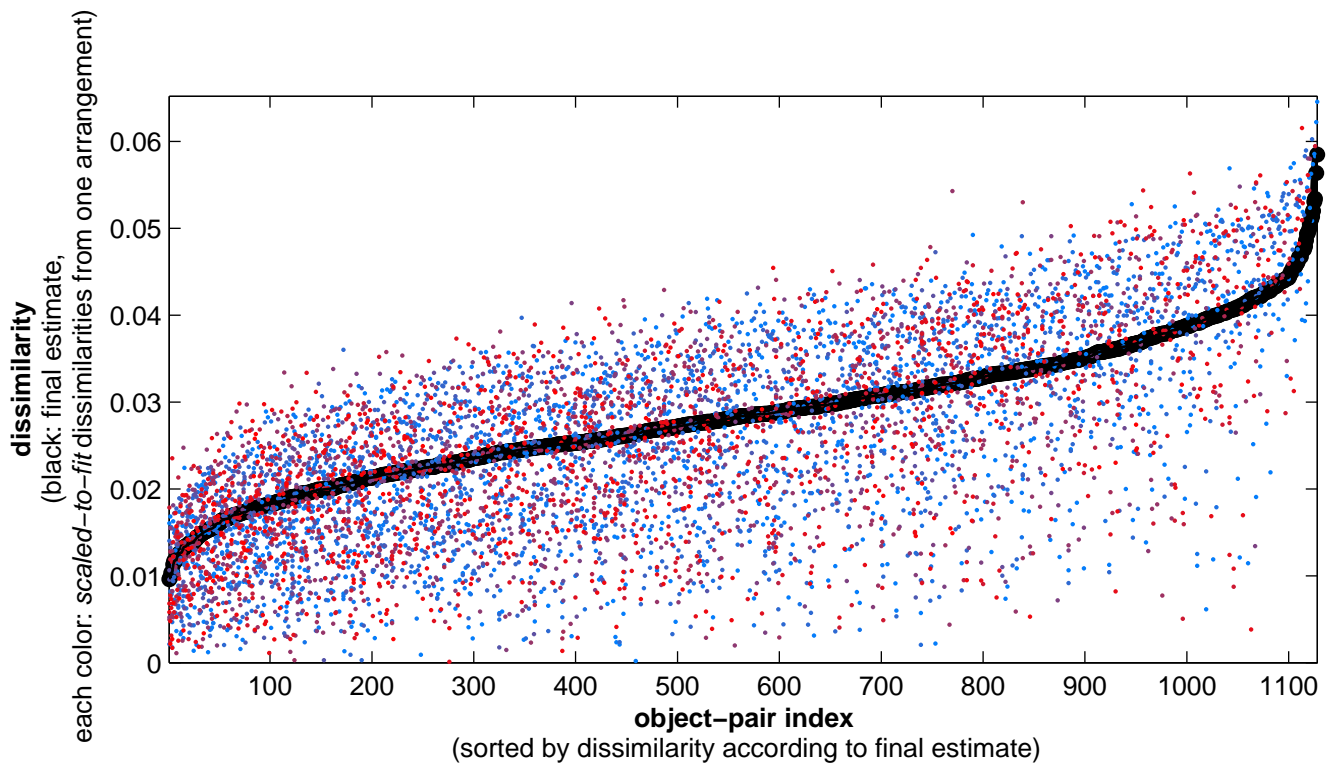
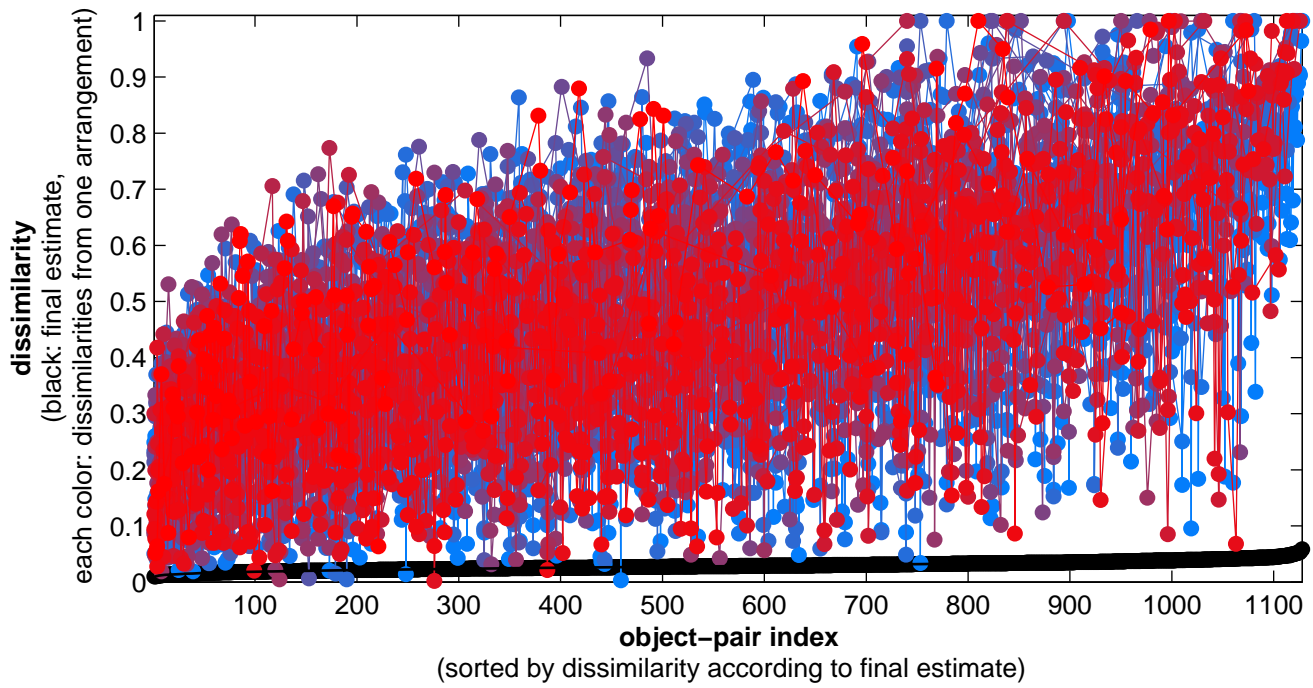
number of objects = 48, number of pairs = 1128





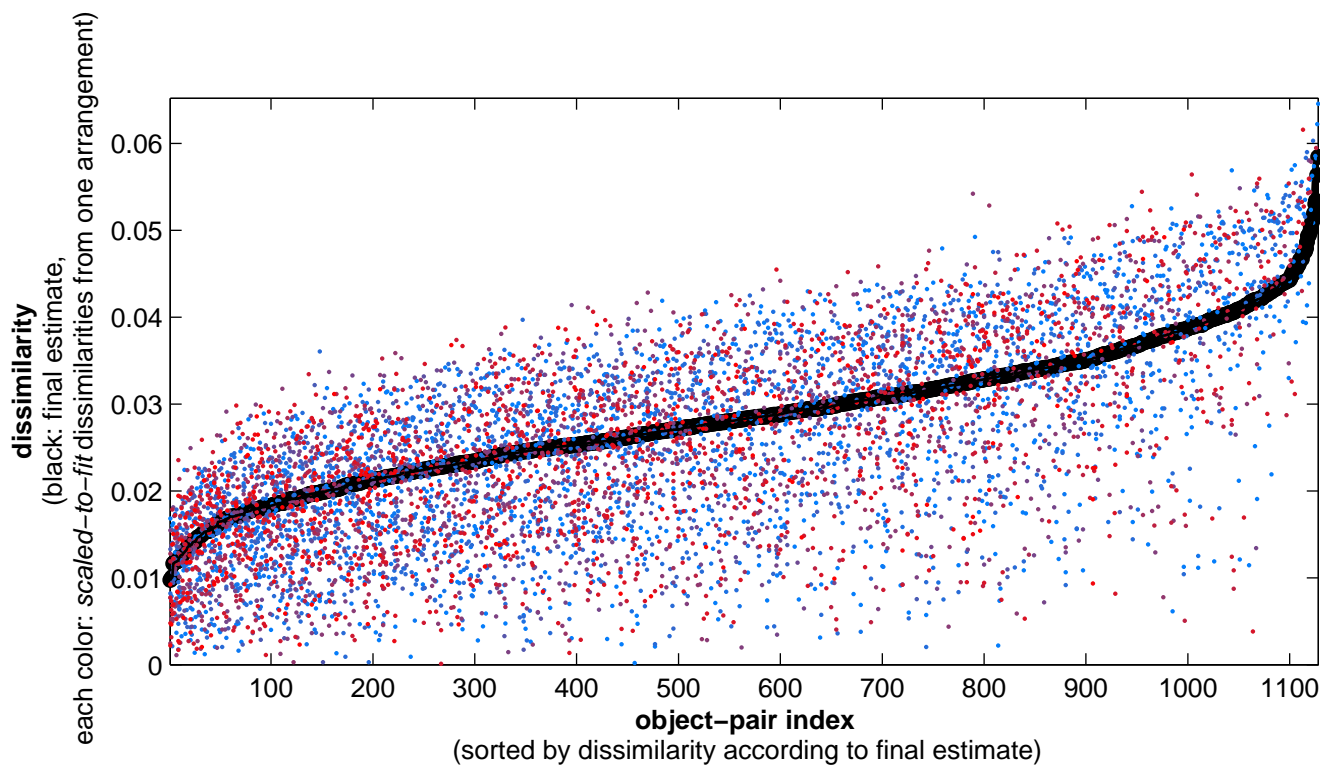
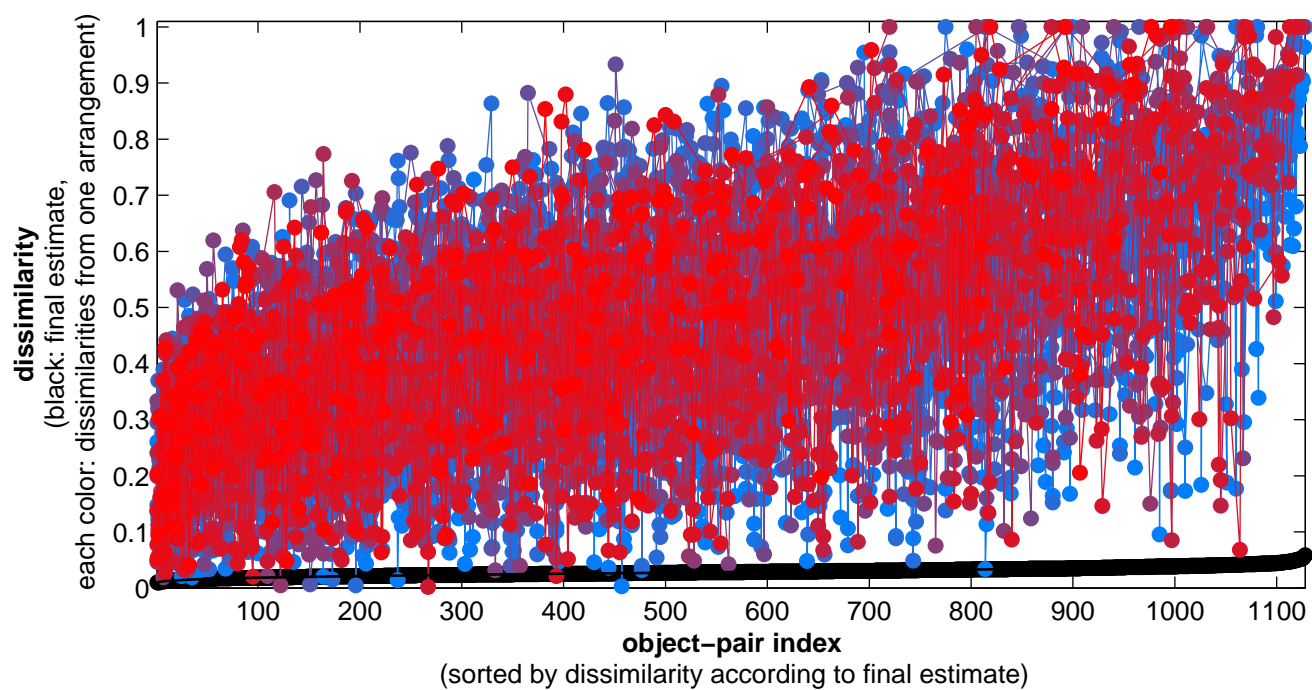
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128

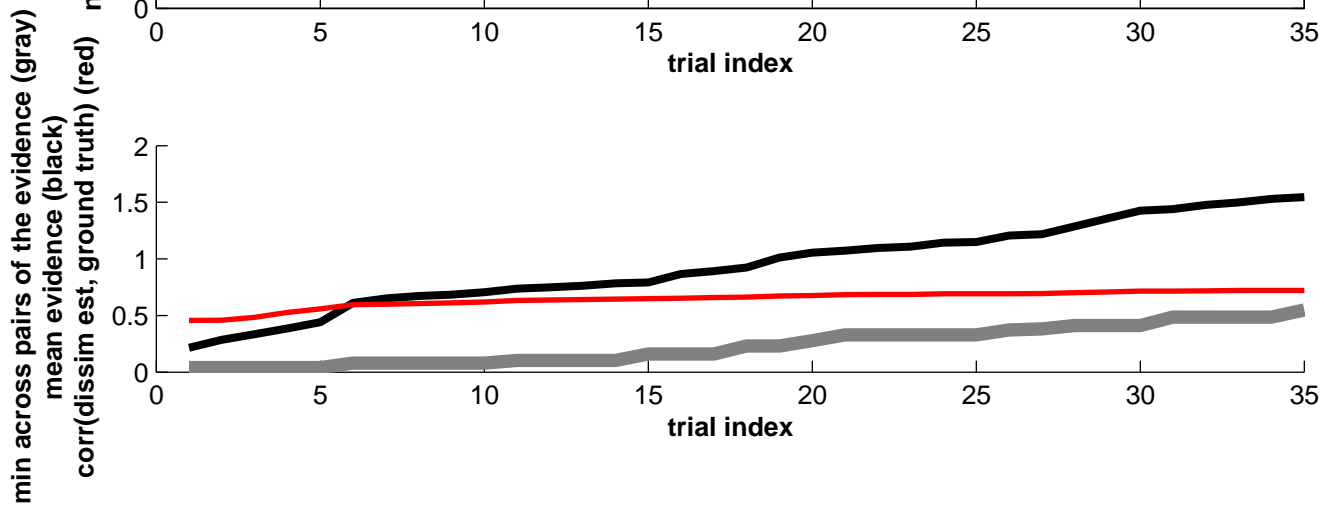
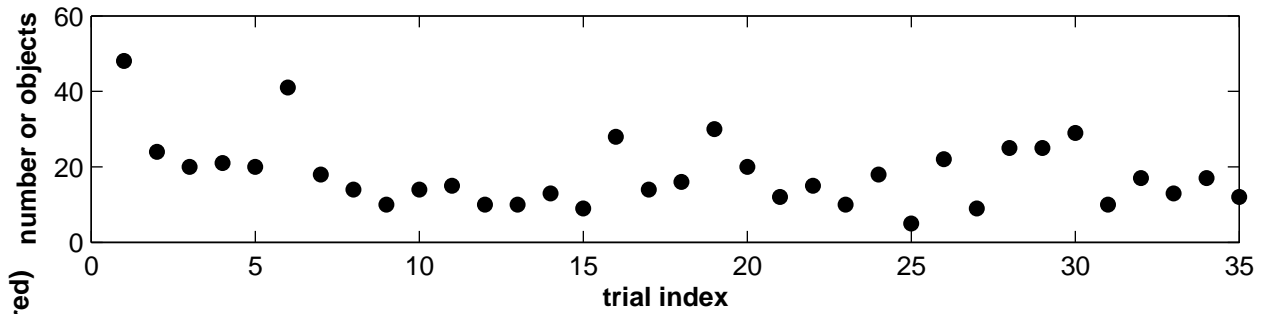
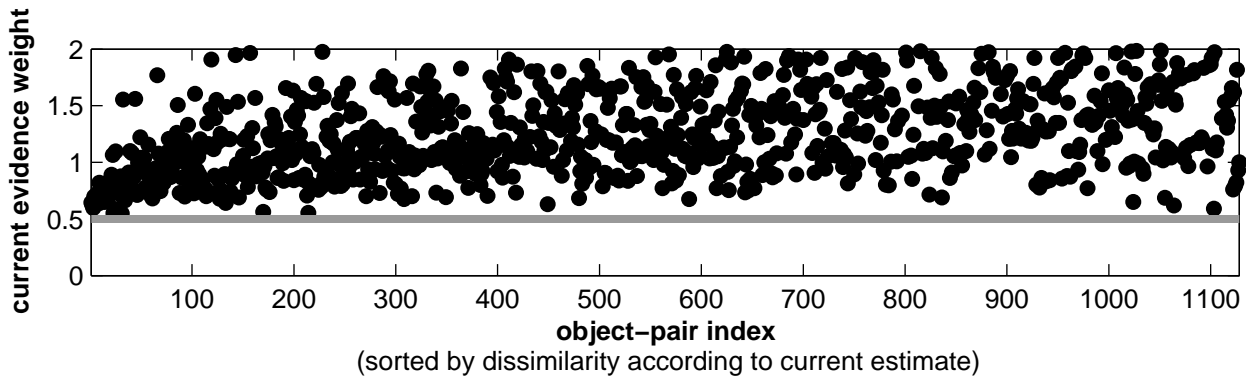
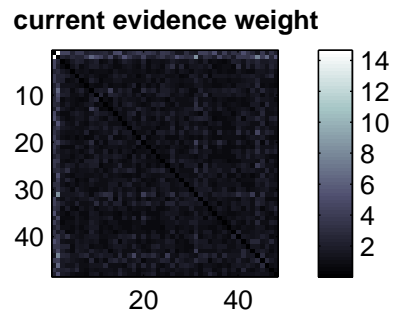


## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128

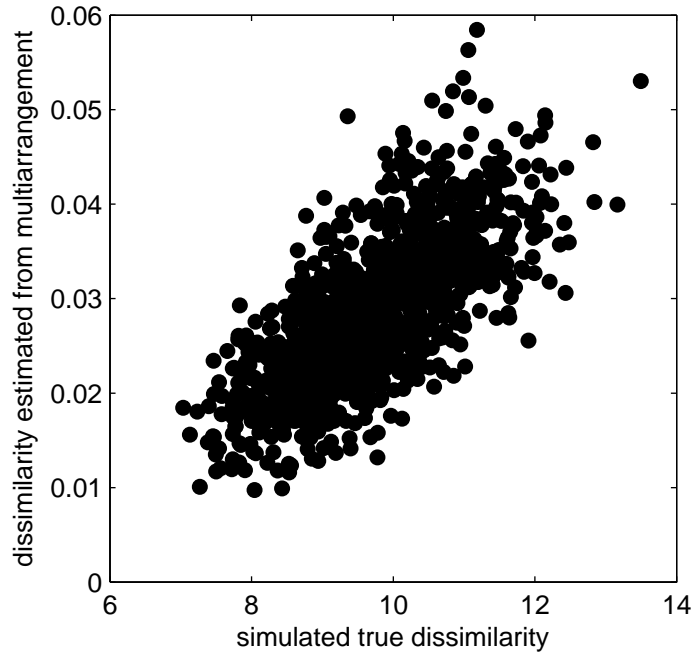


number of objects = 48



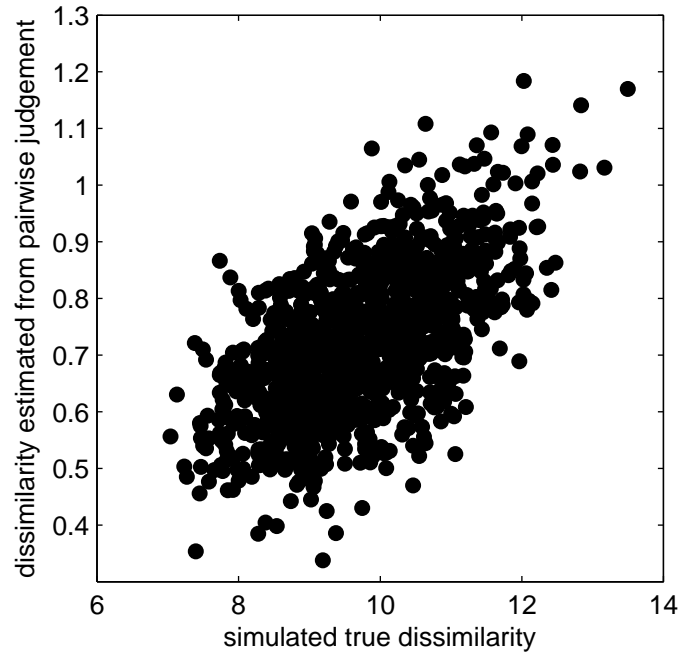
number of objects = 48

**MULTI-ARRANGEMENT (lift the weakest): correlation(true, estimated dissim.)**  
**r=0.722** (placement noise sigma = 0.1, total # objects placed = 634, # obj placed / # pairs = 0.562)

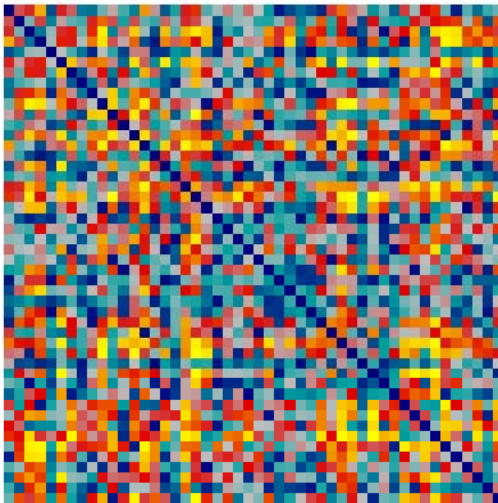


**PAIRWISE JUDGMENT: correlation(true, estimated dissim.)**

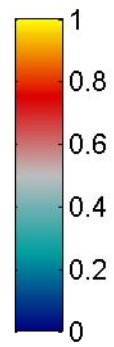
**r=0.594** (placement noise sigma = 0.1, # pairs judged = 1128)



## multiple-trial RDM



each dissimilarity matrix ( $48^2$ )  
separately rank-transformed  
and scaled into [0,1]



## multiple-trial MDS plot

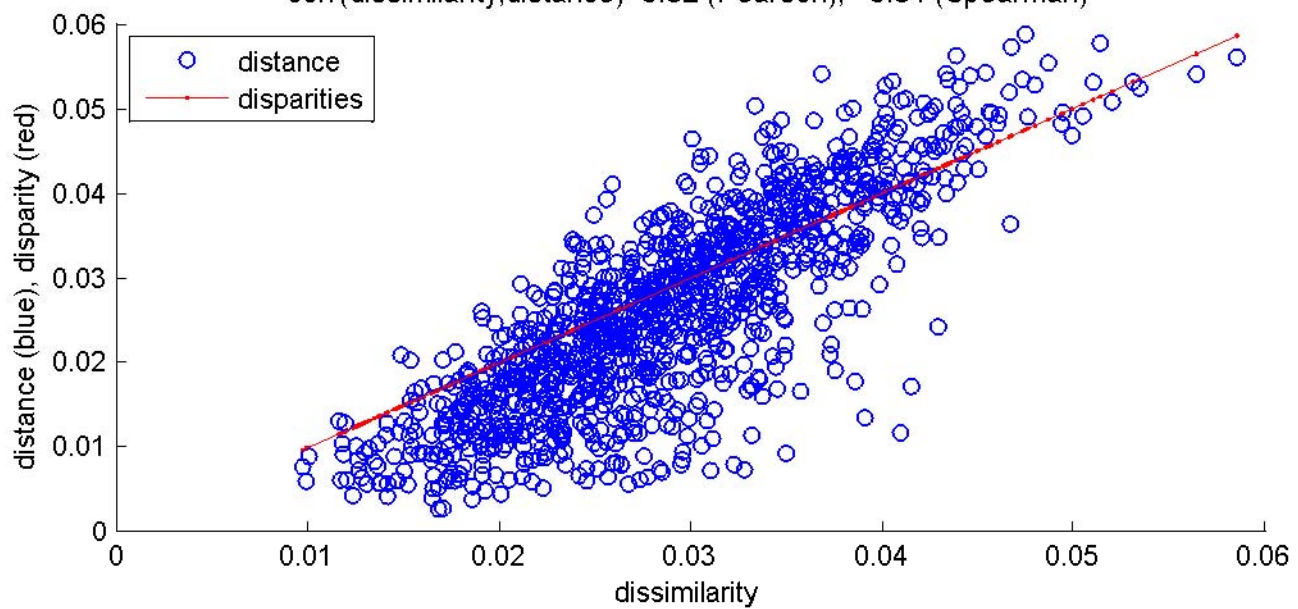
stimulus images in MDS arrangement  
(metricstress)



## Shepard plot

shepard plot (metricstress)

$\text{corr}(\text{dissimilarity}, \text{distance}) = 0.82$  (Pearson),  $= 0.81$  (Spearman)



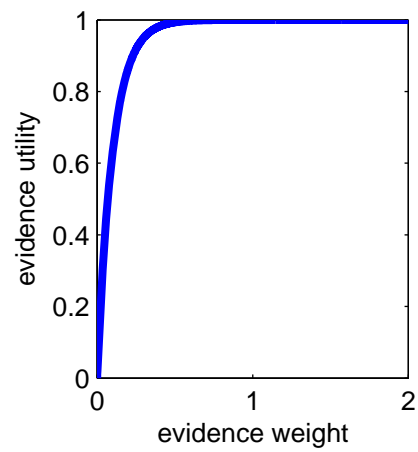


## MULTI-ARRANGEMENT RUN DOCUMENTATION

number of objects = 48, number of pairs = 1128

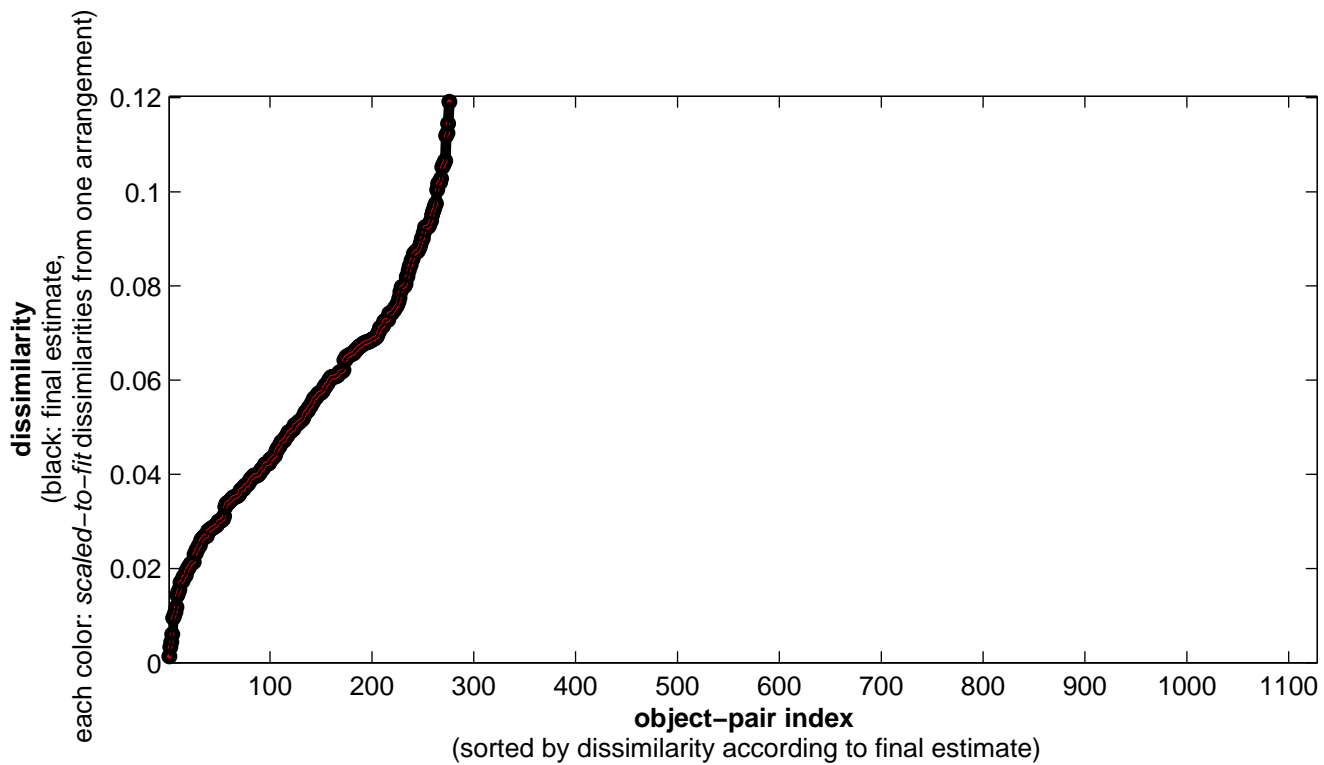
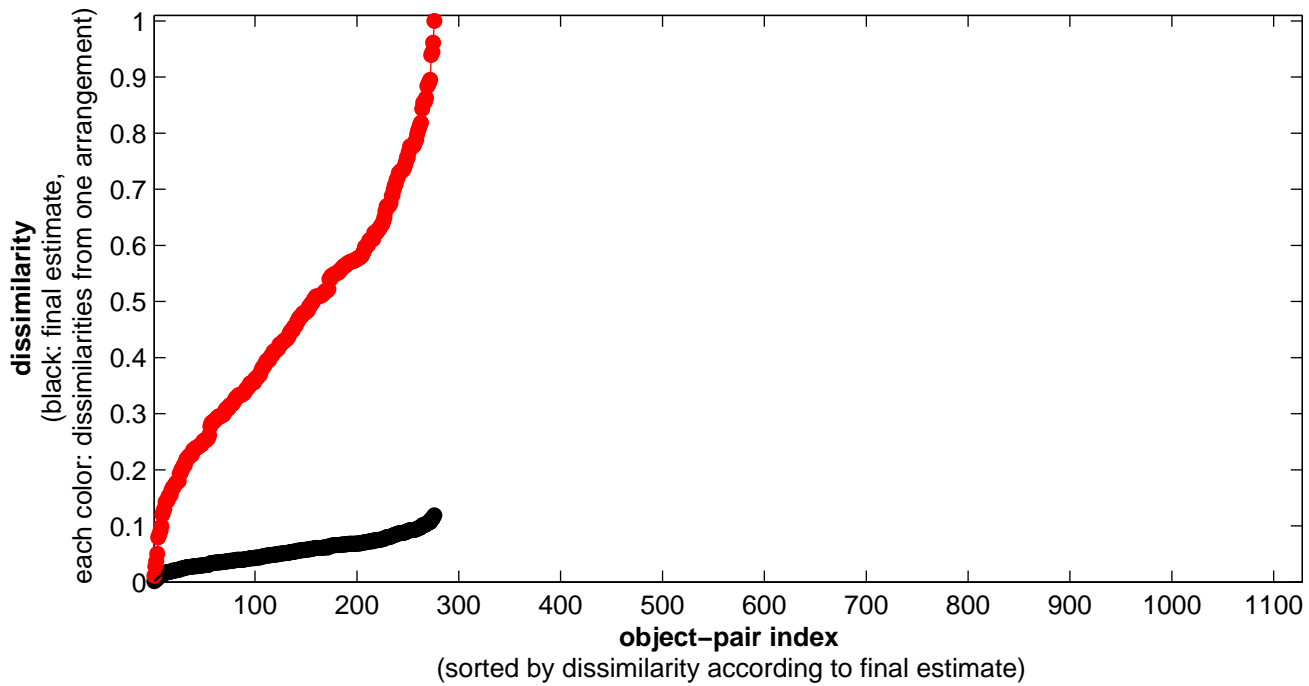
max number of objects per trial = 24

arrangements simulated by MDS (for random ground-truth dissimilarity matrix)



## MULTI-ARRANGEMENT

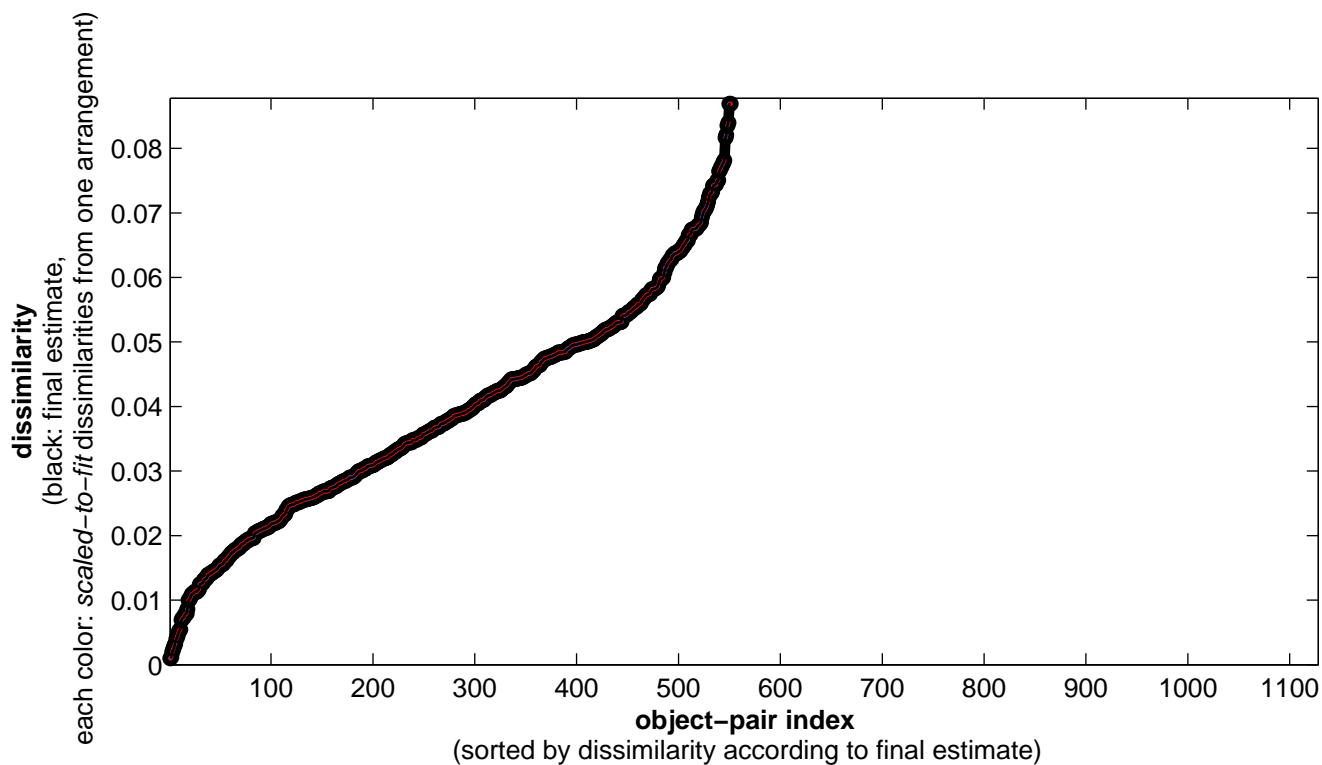
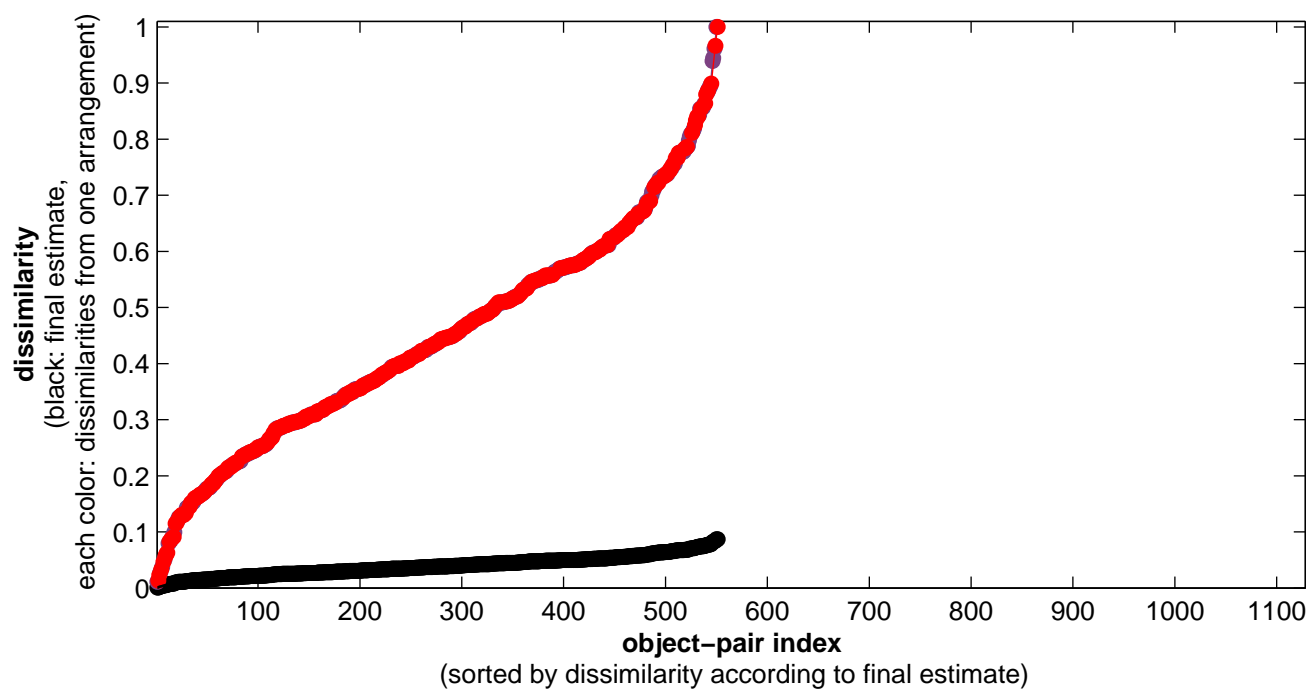
number of objects = 48, number of pairs = 1128





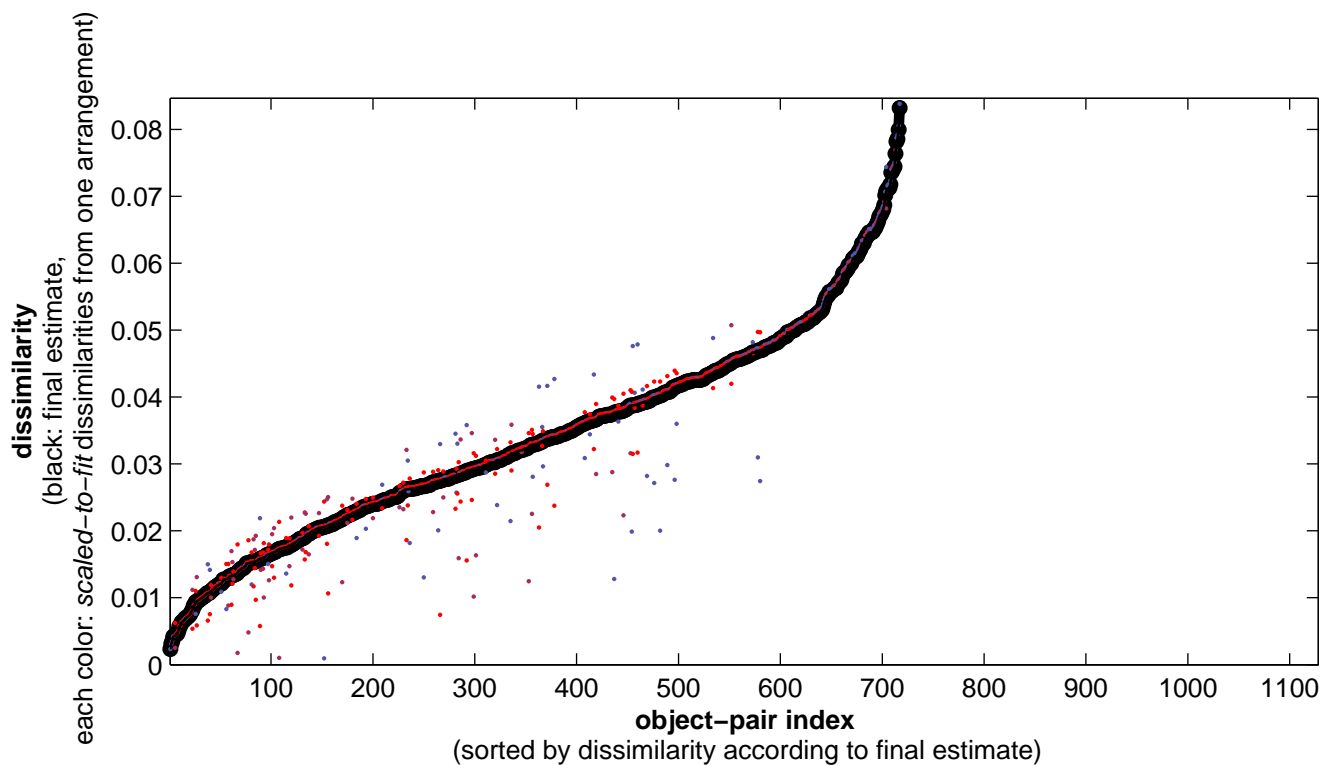
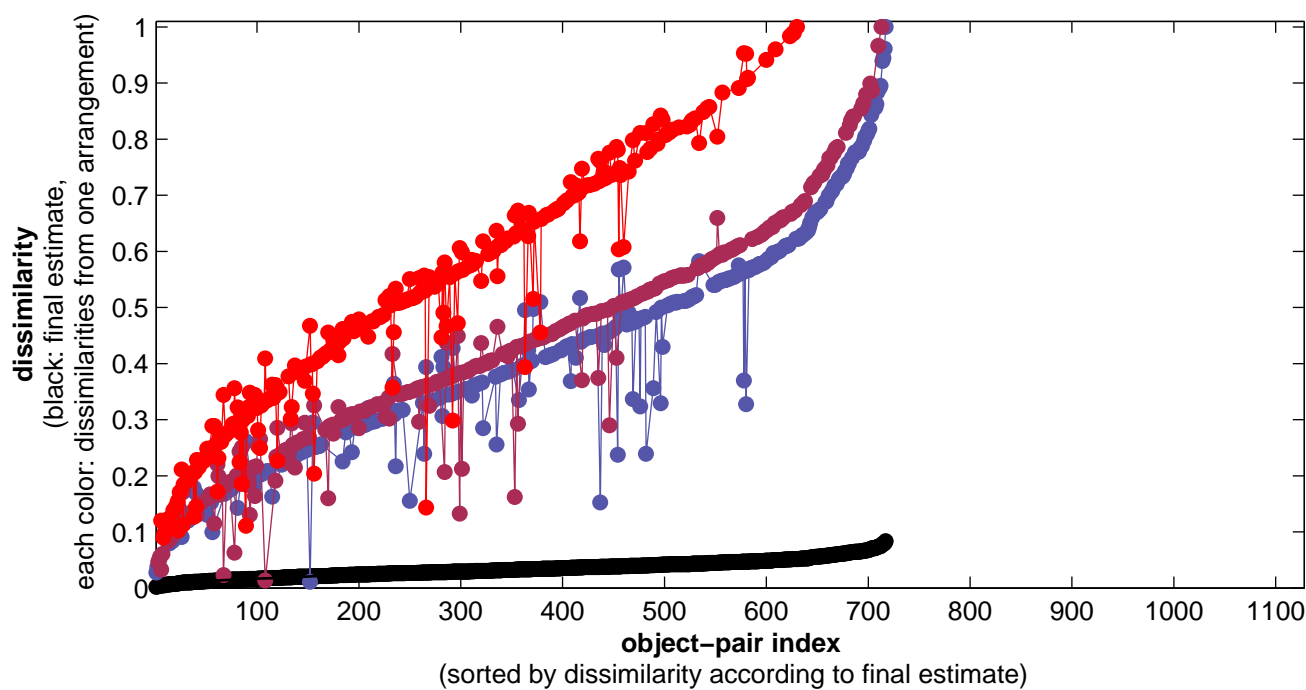
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



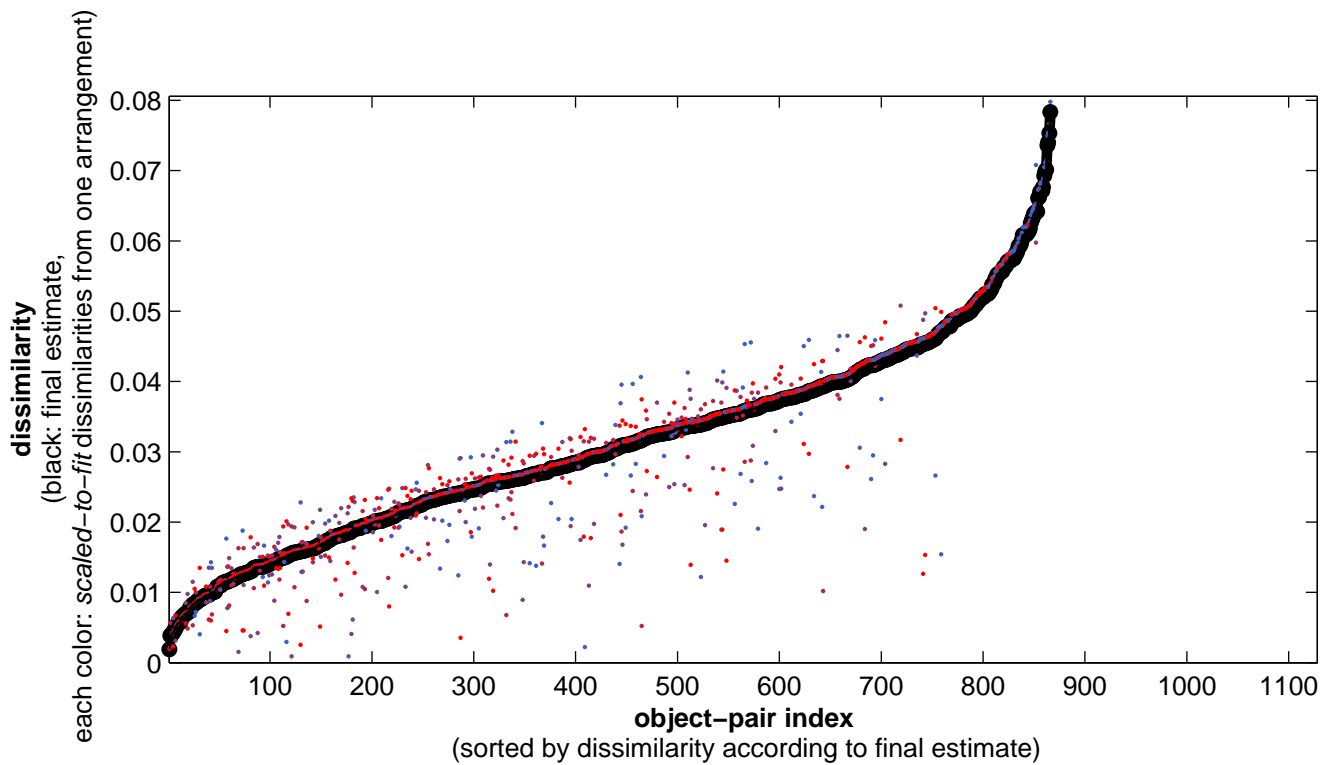
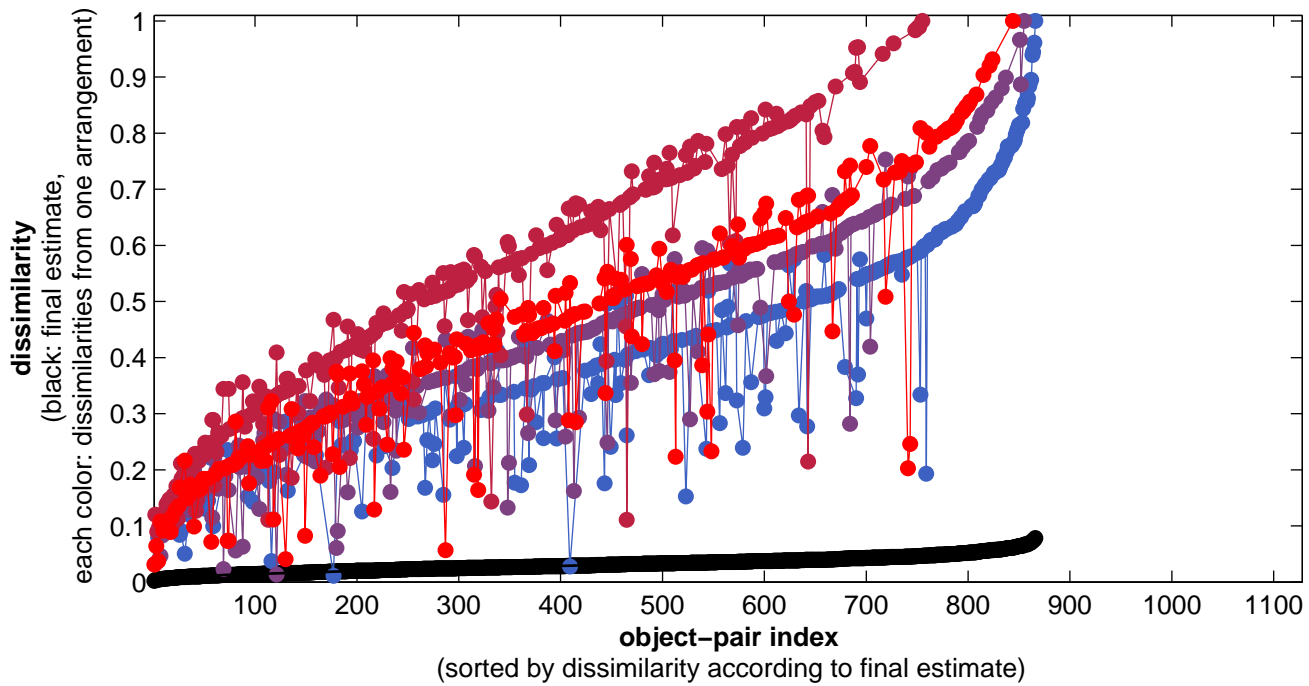
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



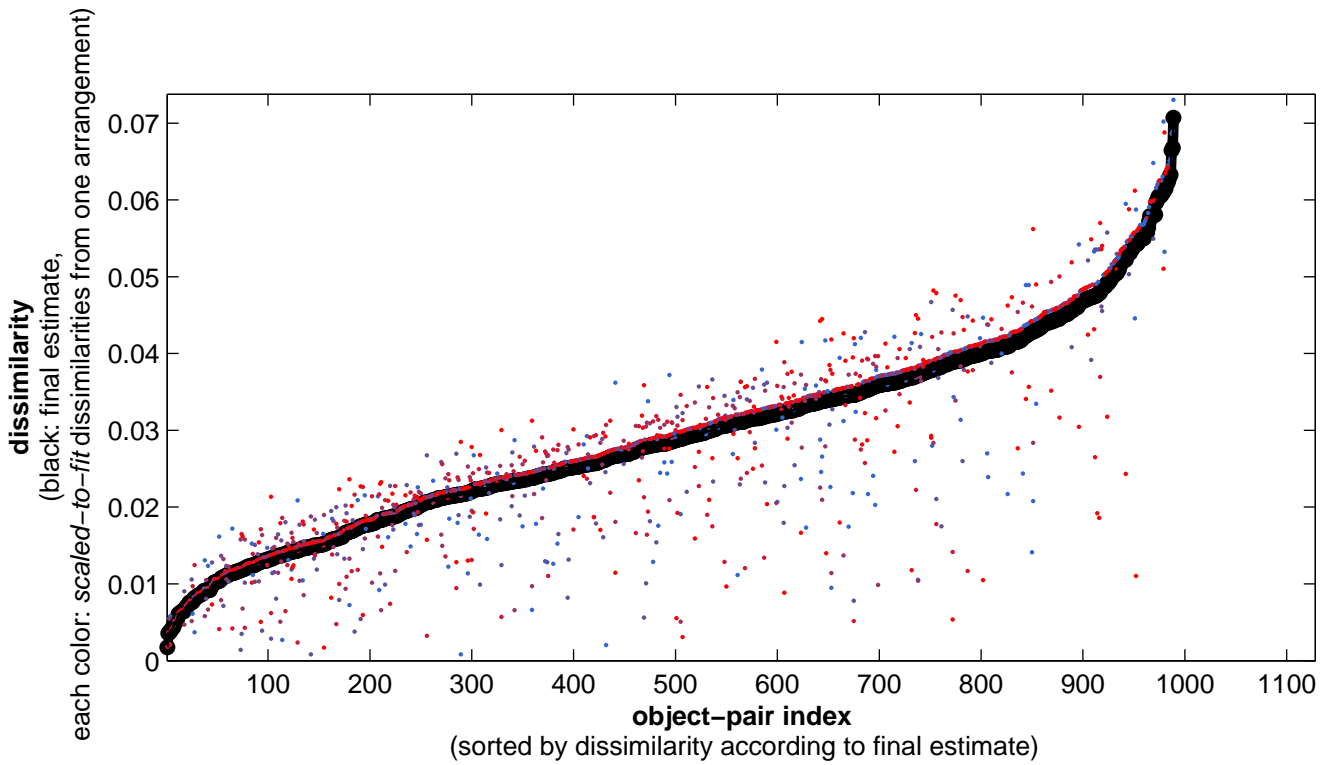
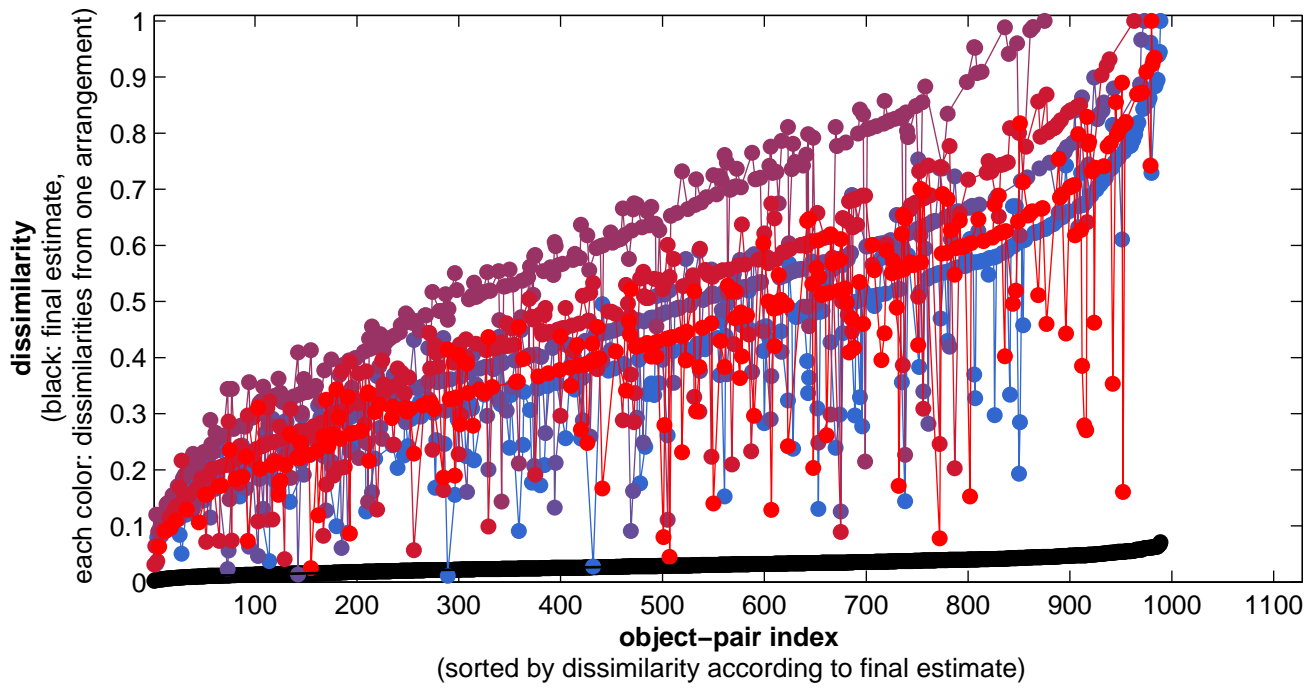
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



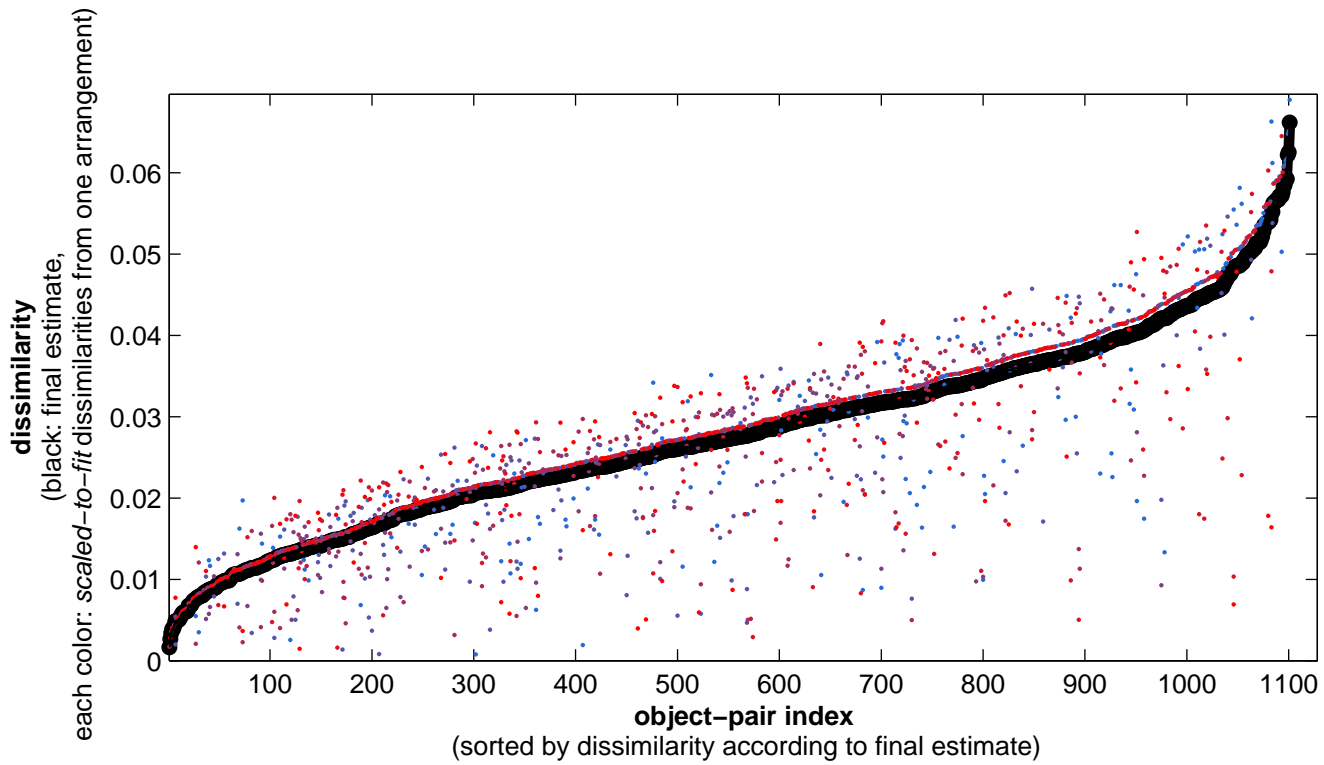
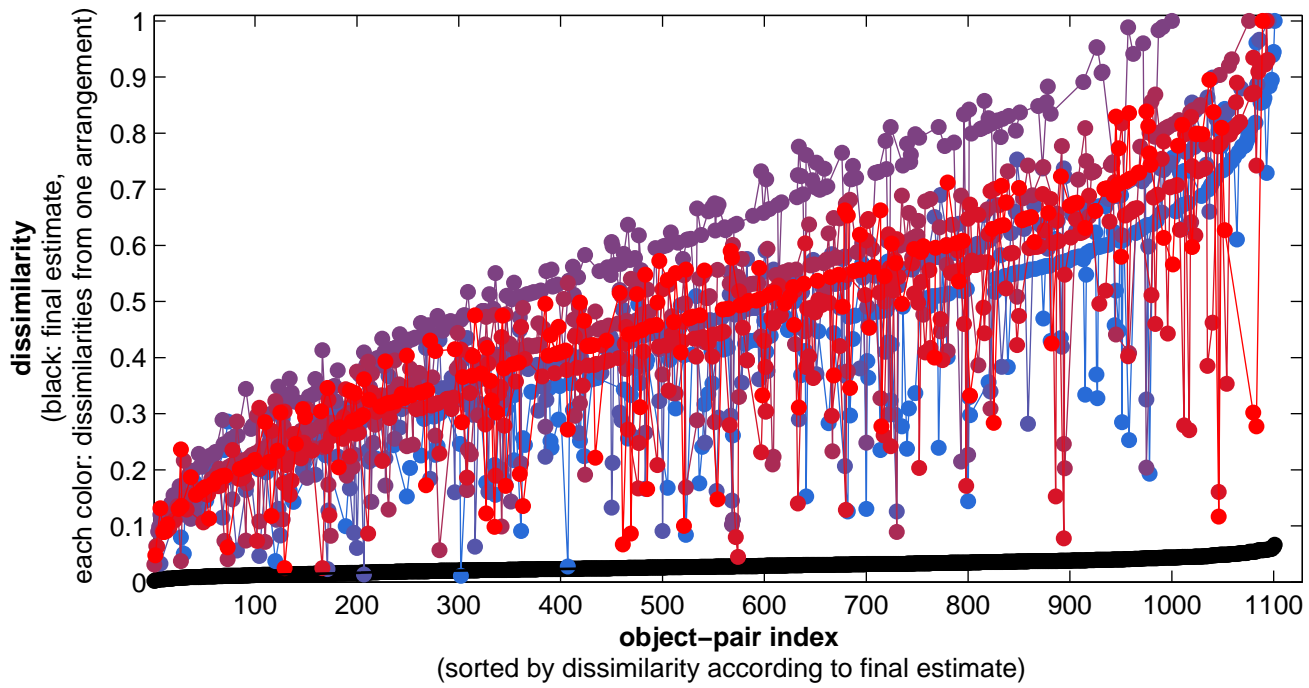
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



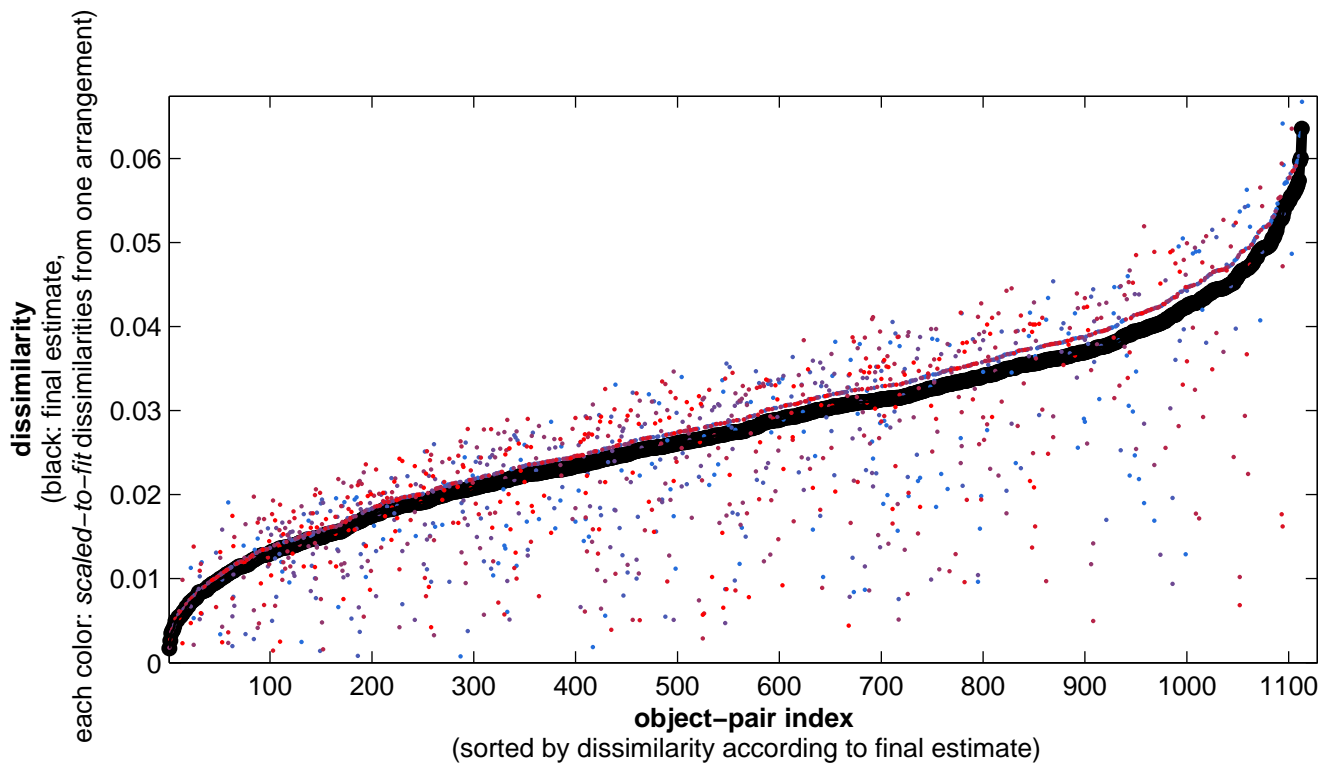
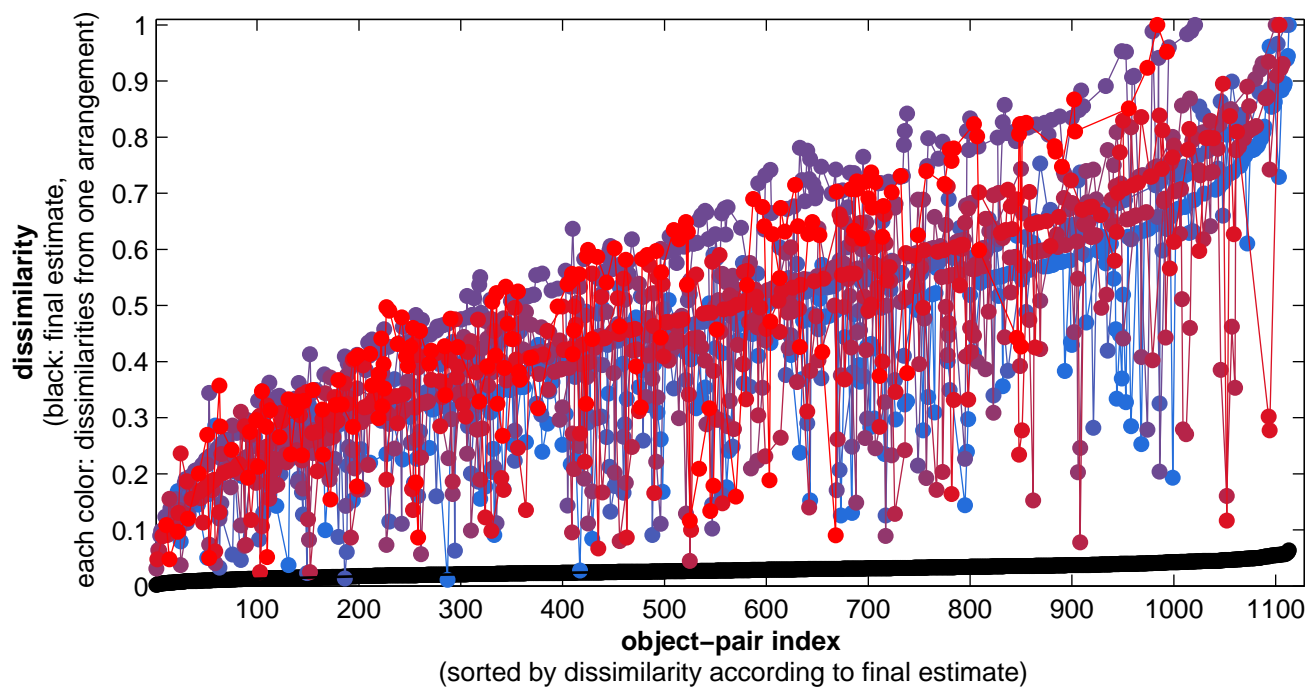
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



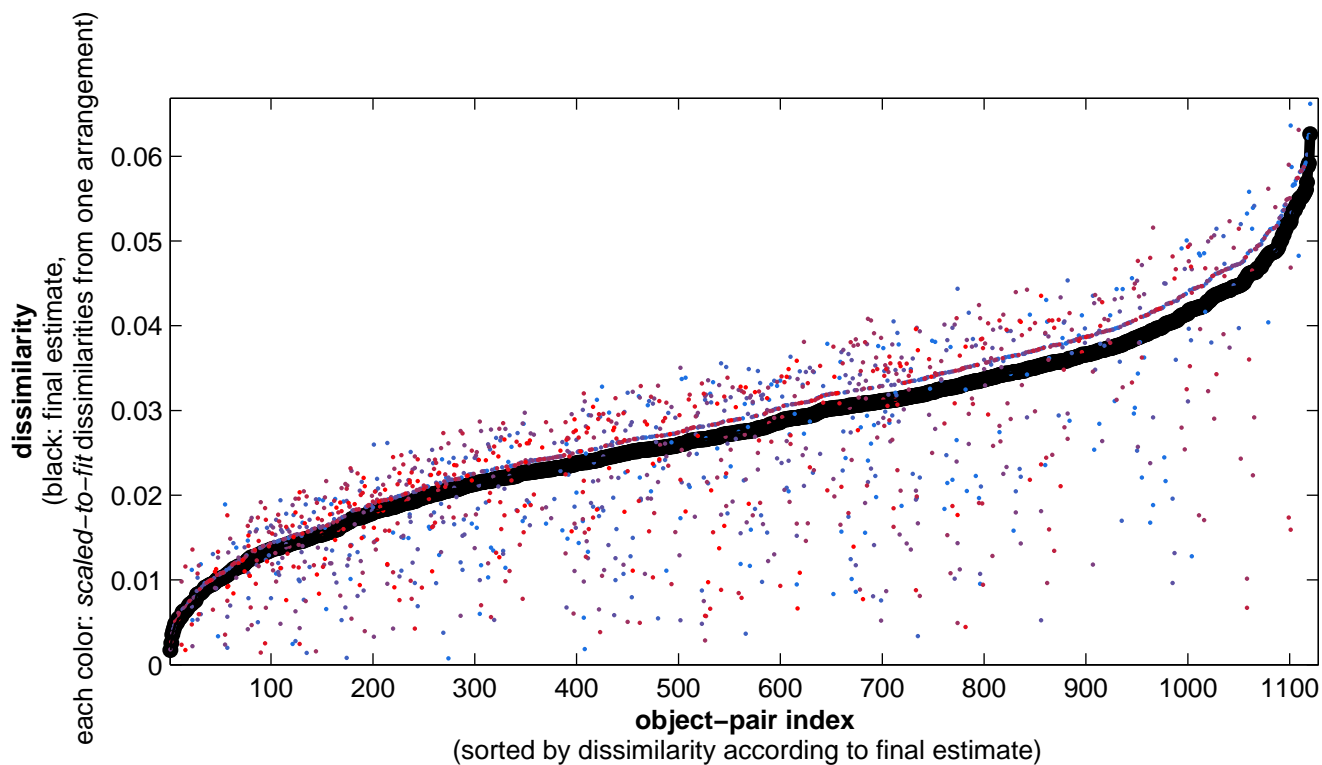
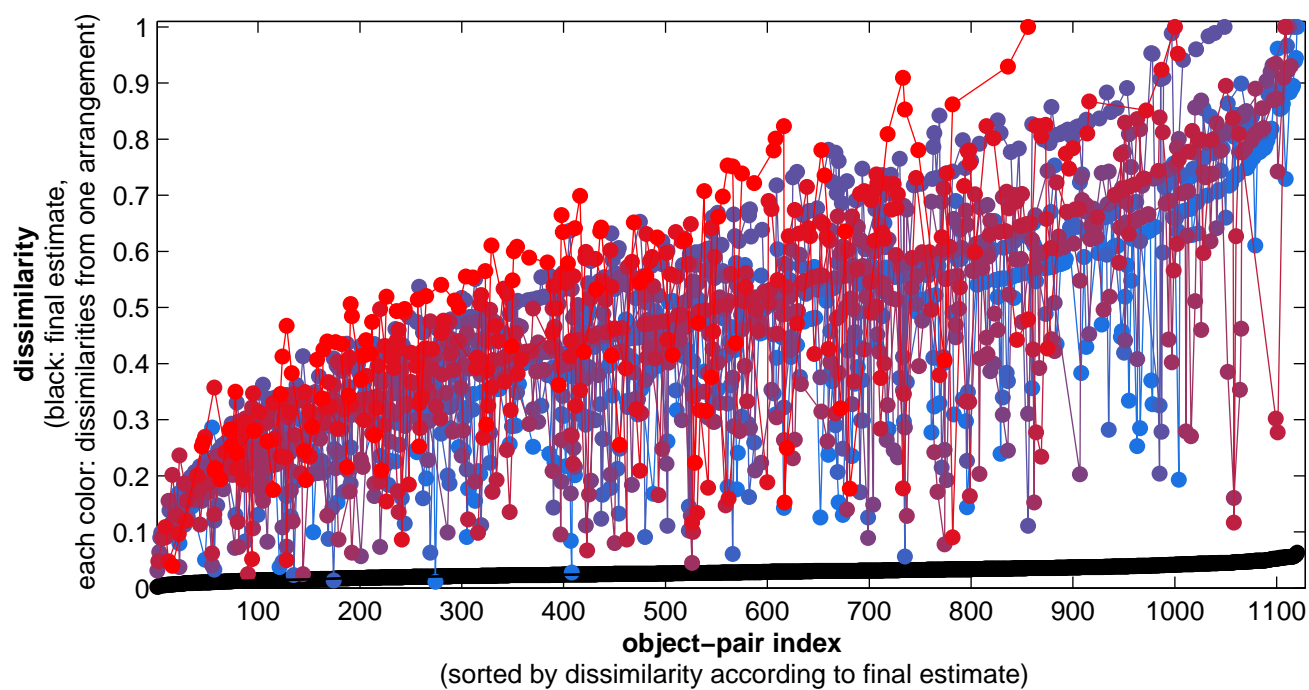
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



## MULTI-ARRANGEMENT

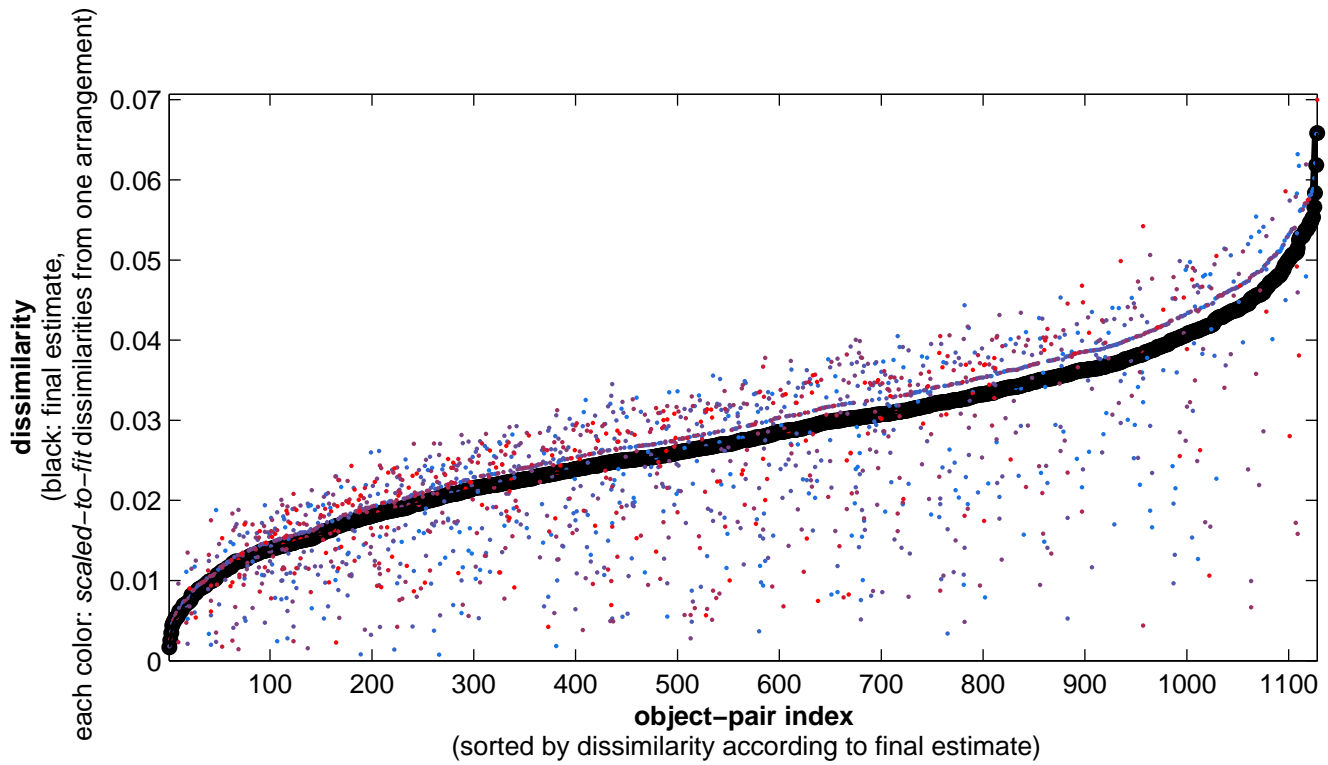
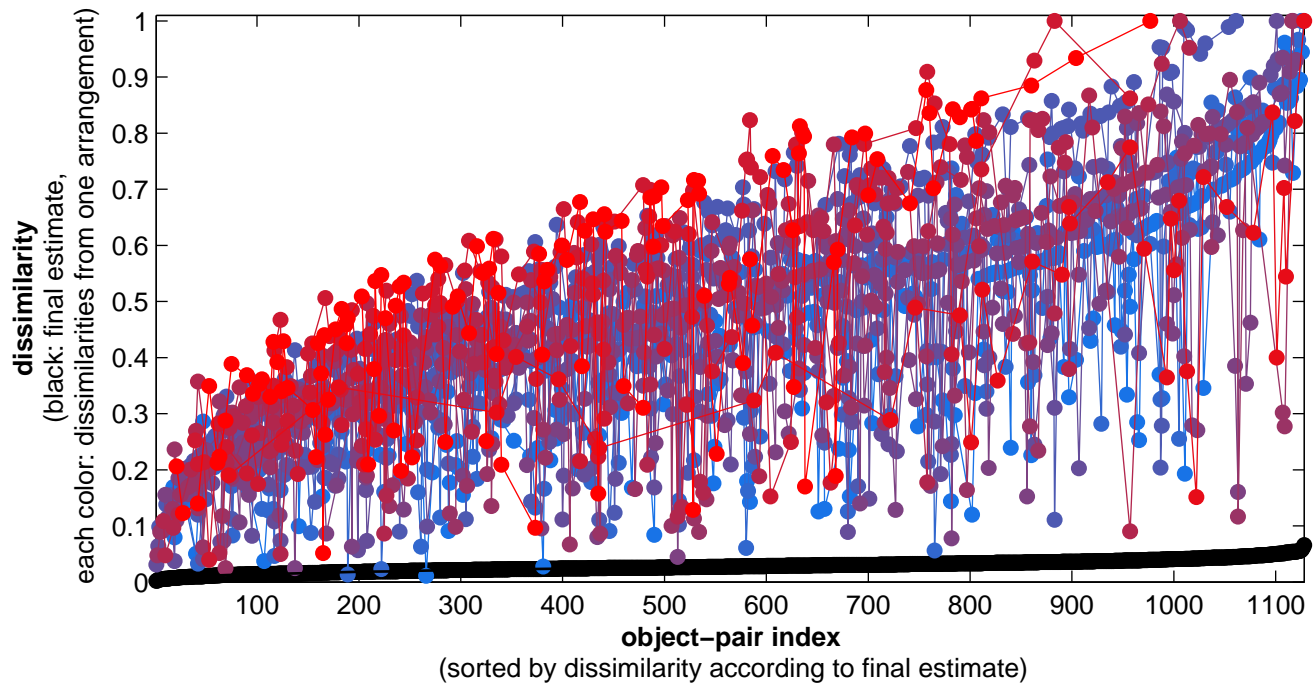
number of objects = 48, number of pairs = 1128





## MULTI-ARRANGEMENT

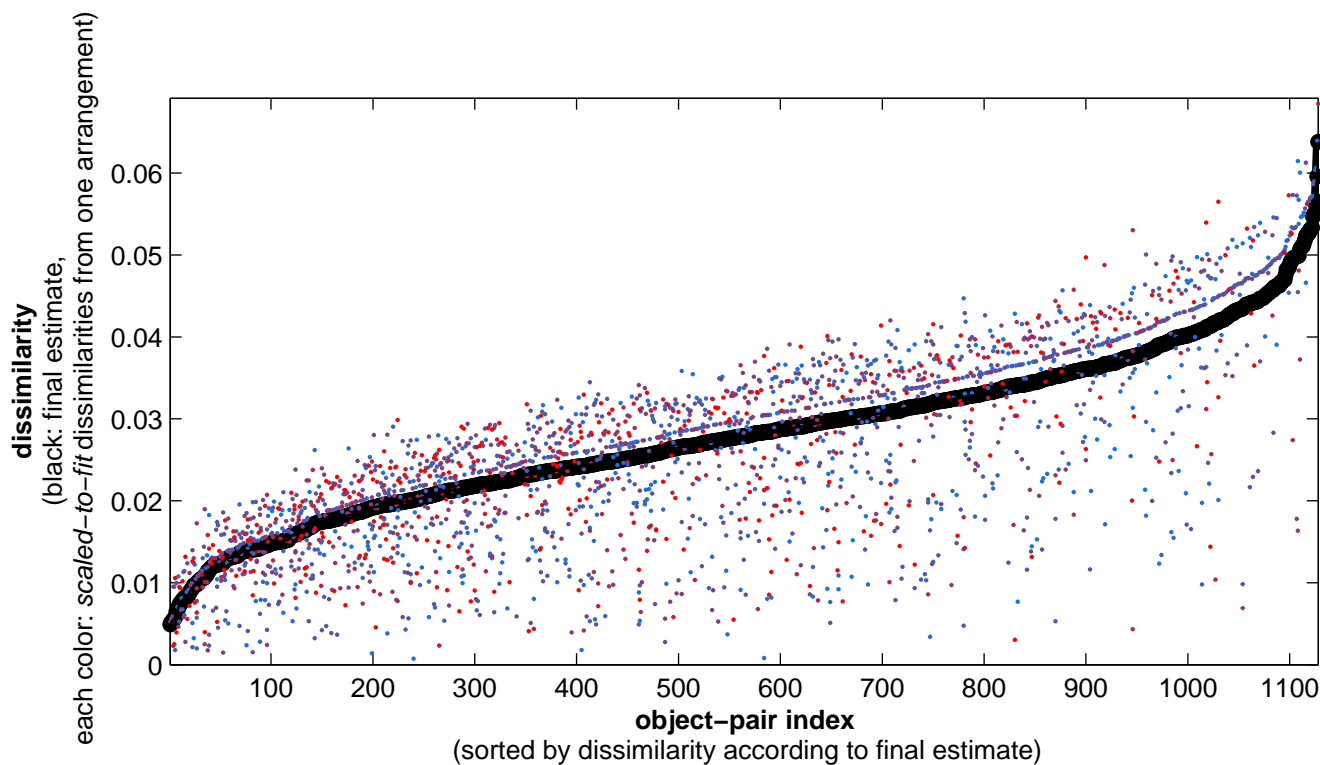
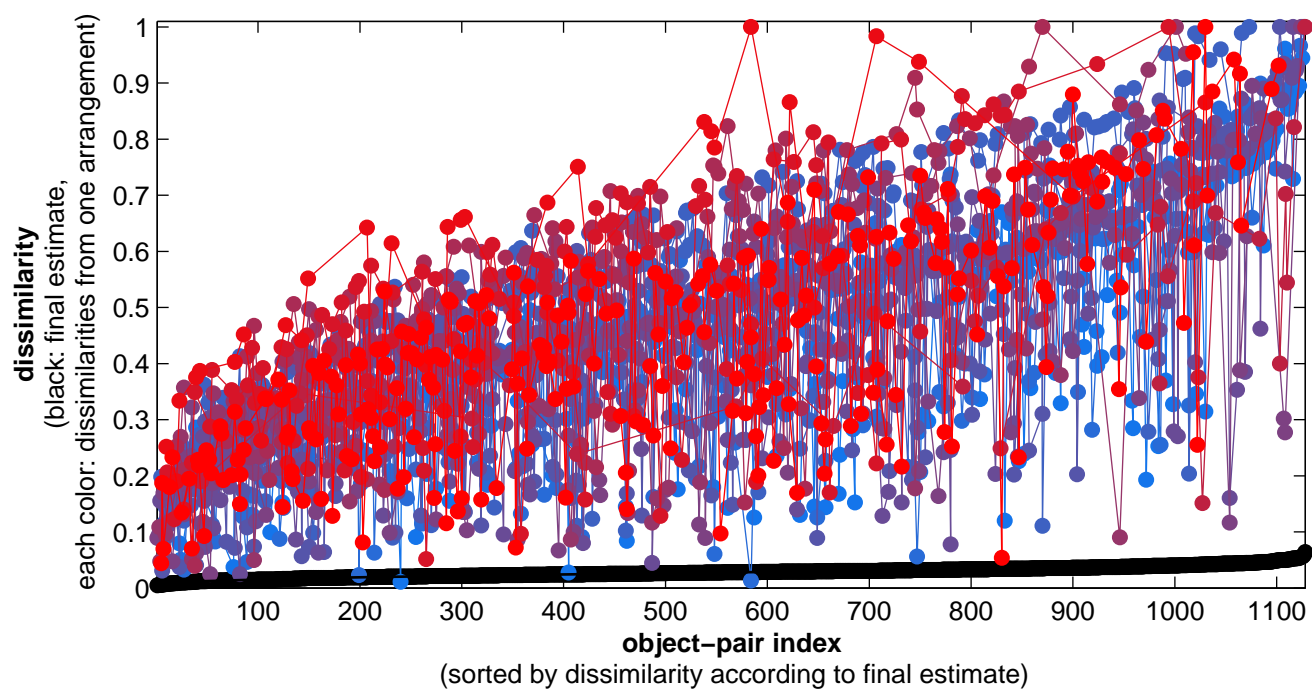
number of objects = 48, number of pairs = 1128





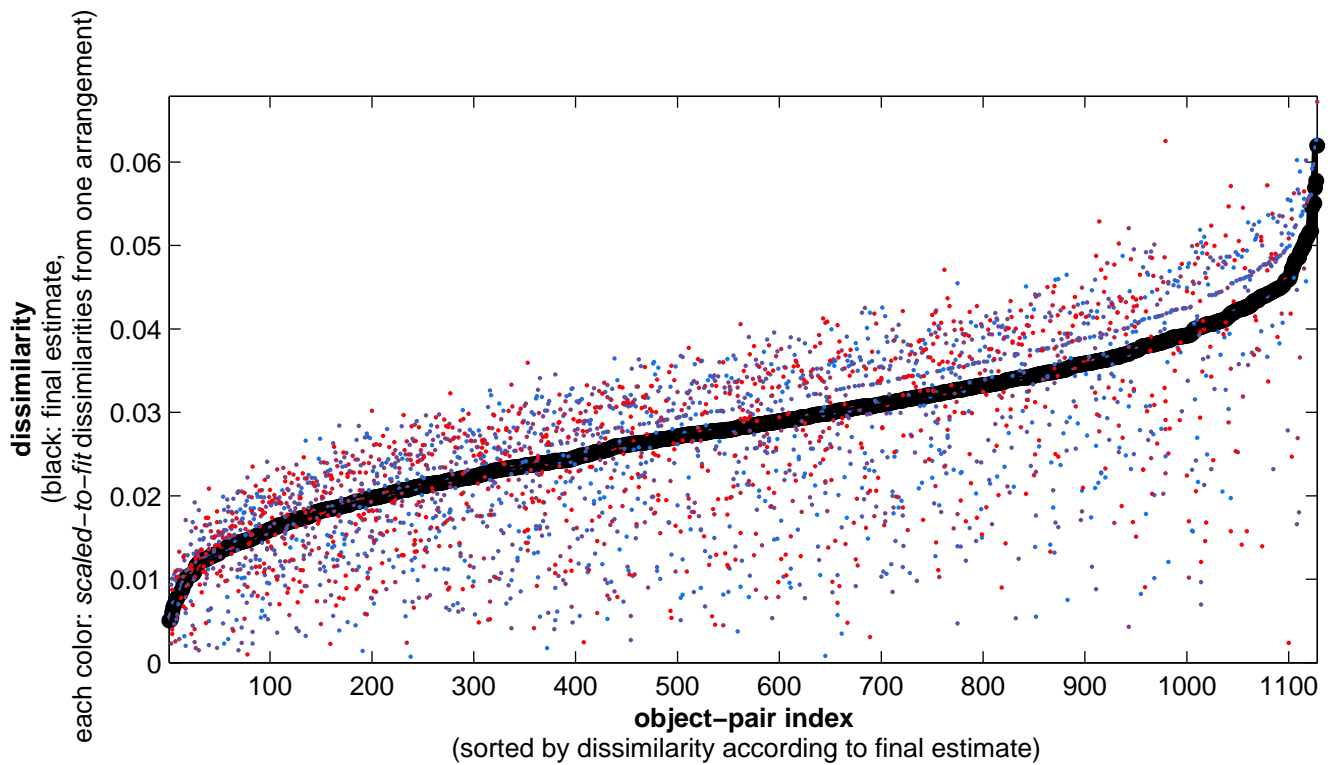
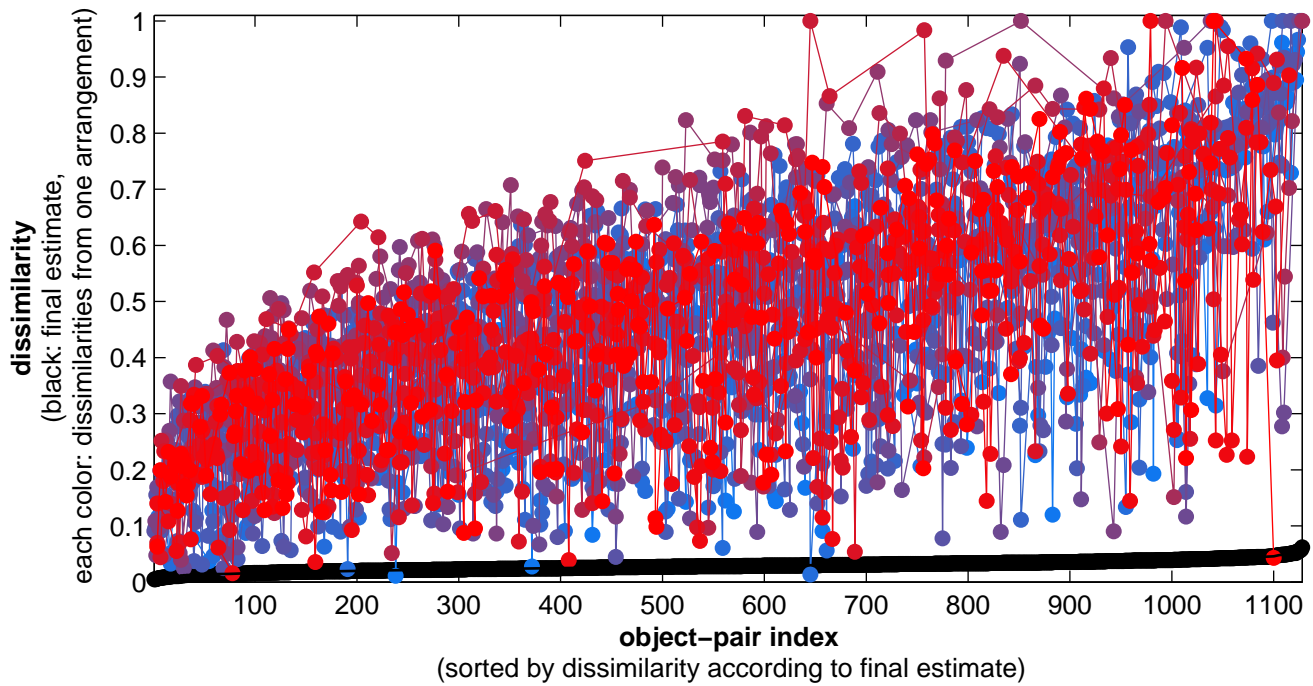
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



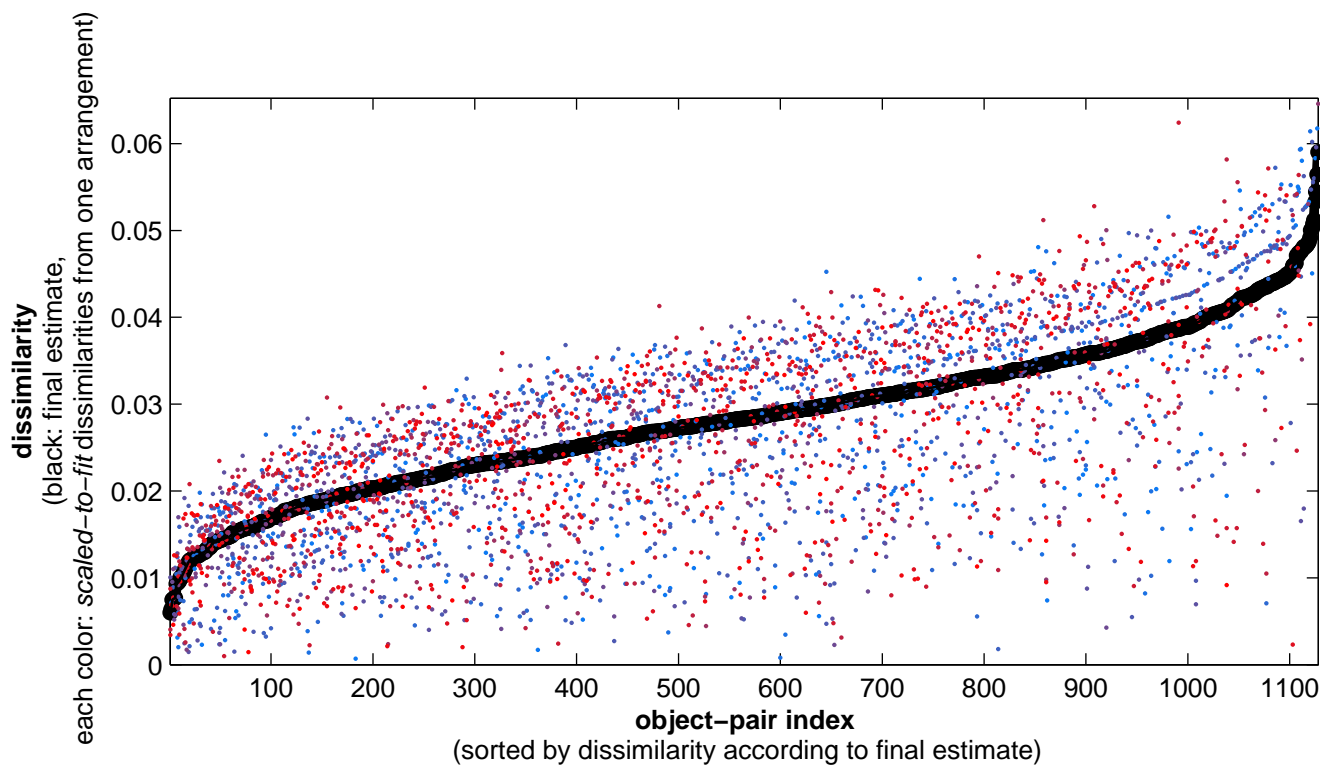
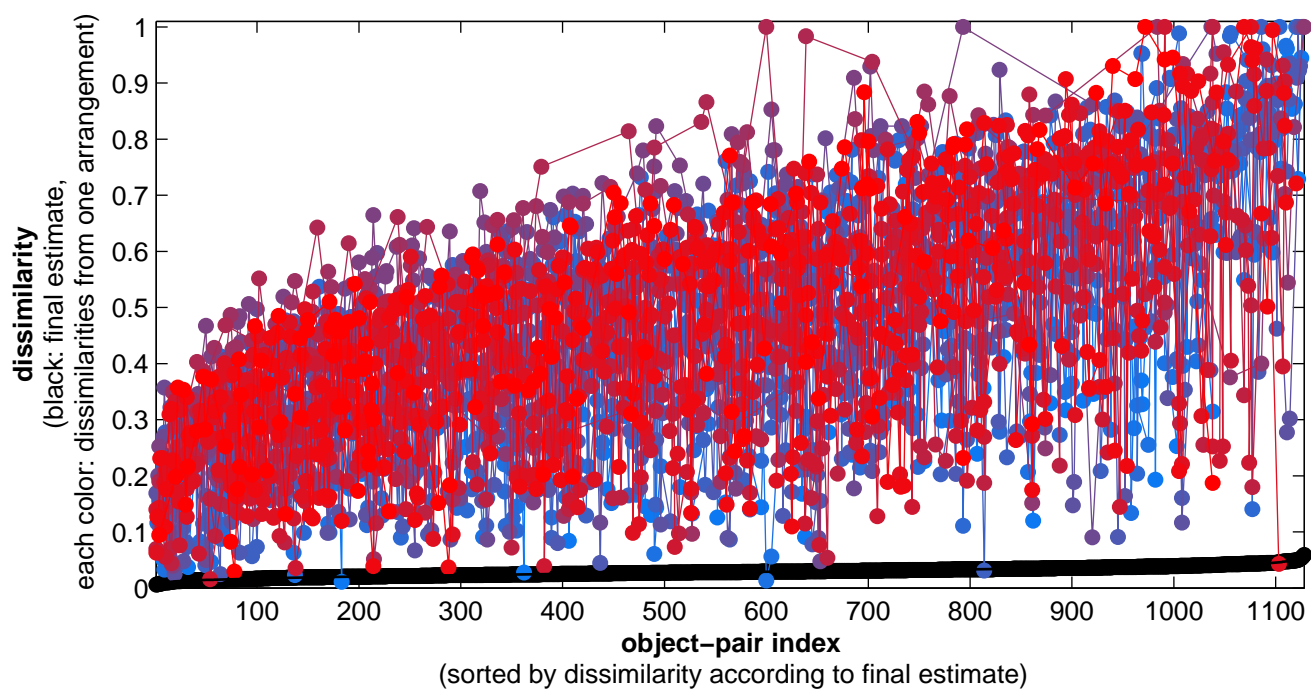
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



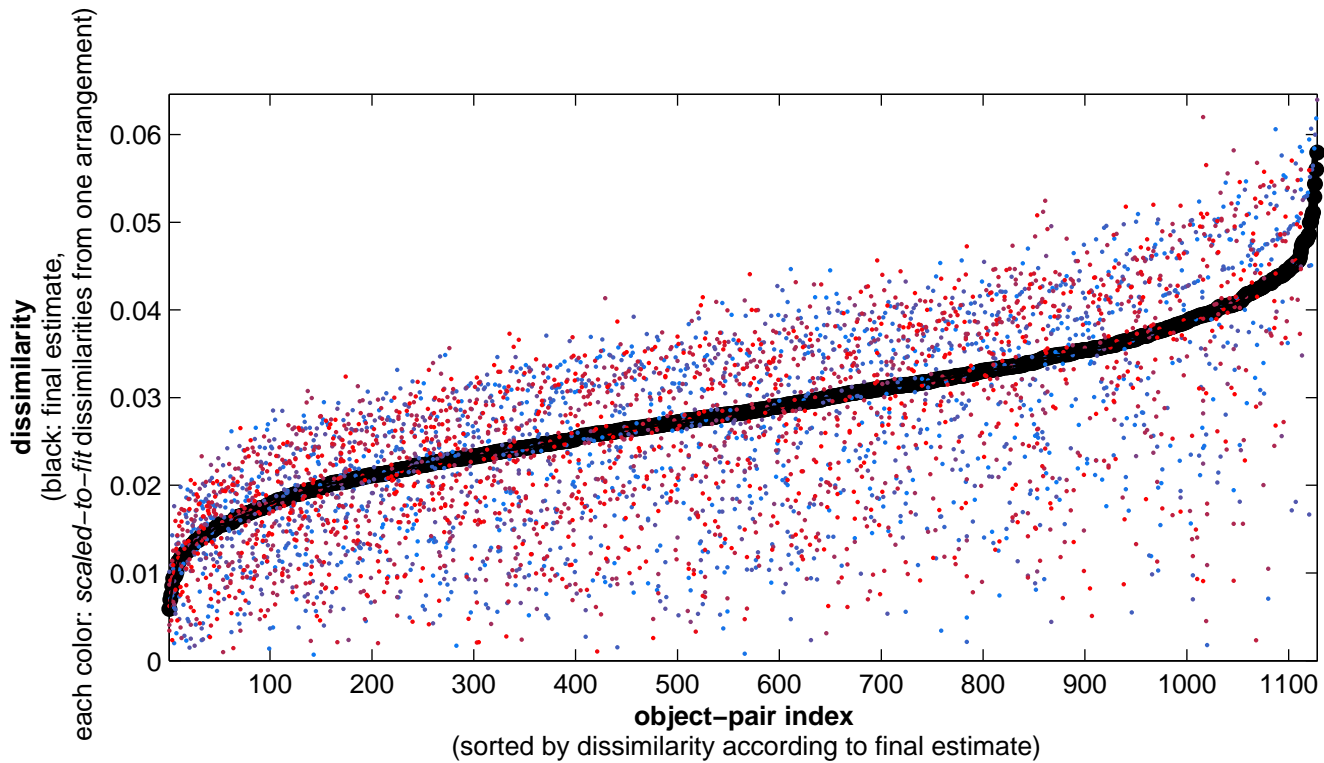
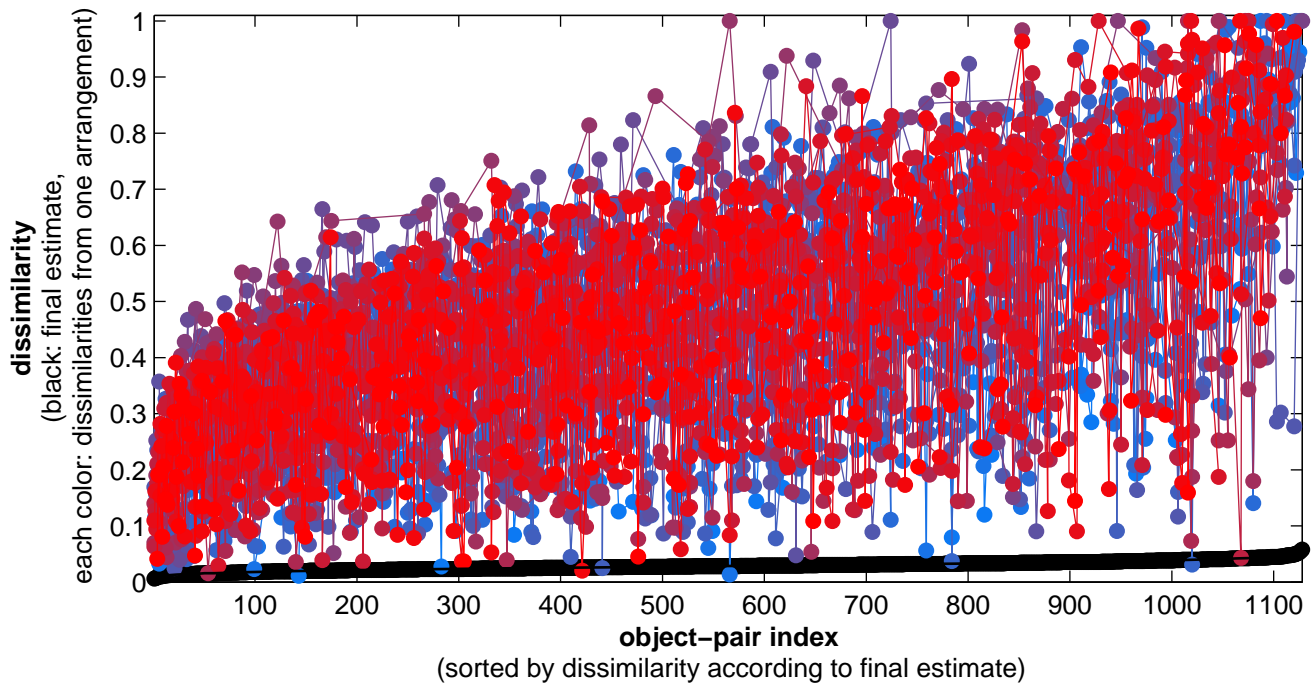
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



## MULTI-ARRANGEMENT

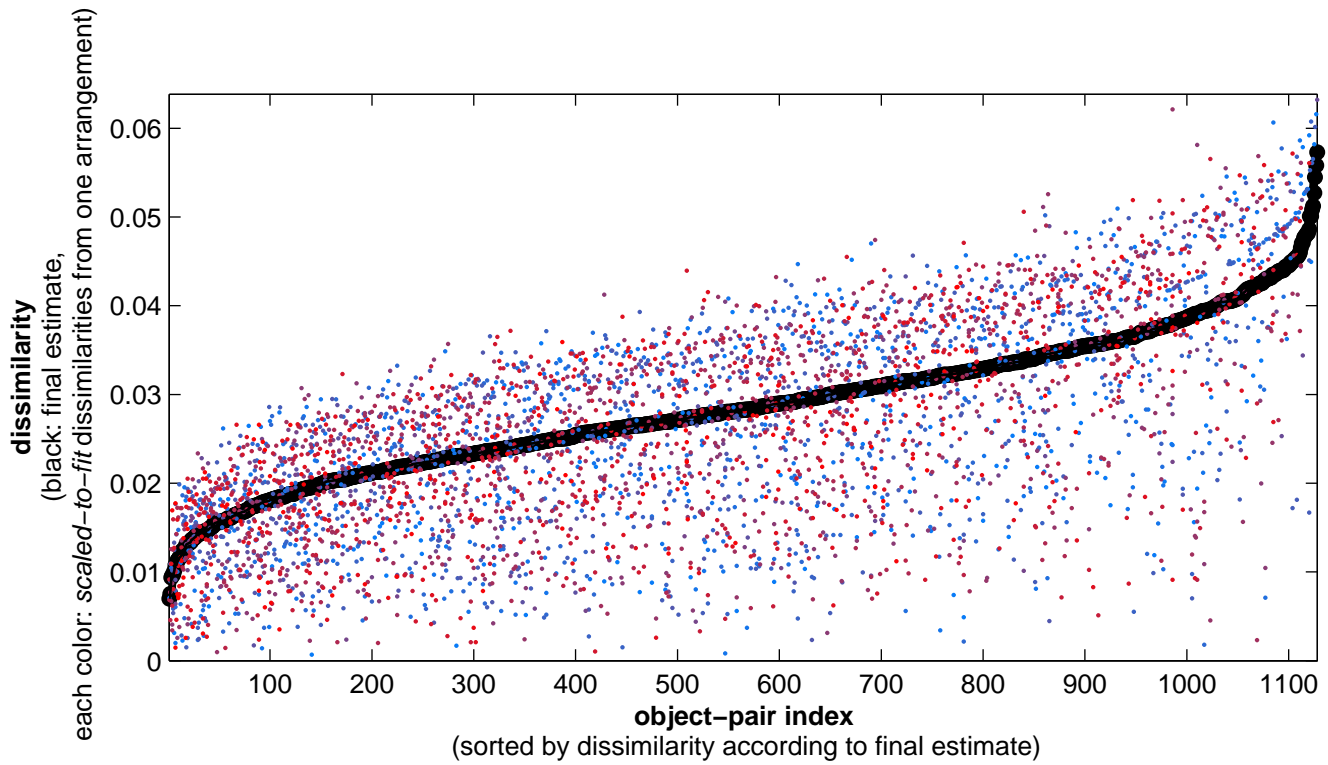
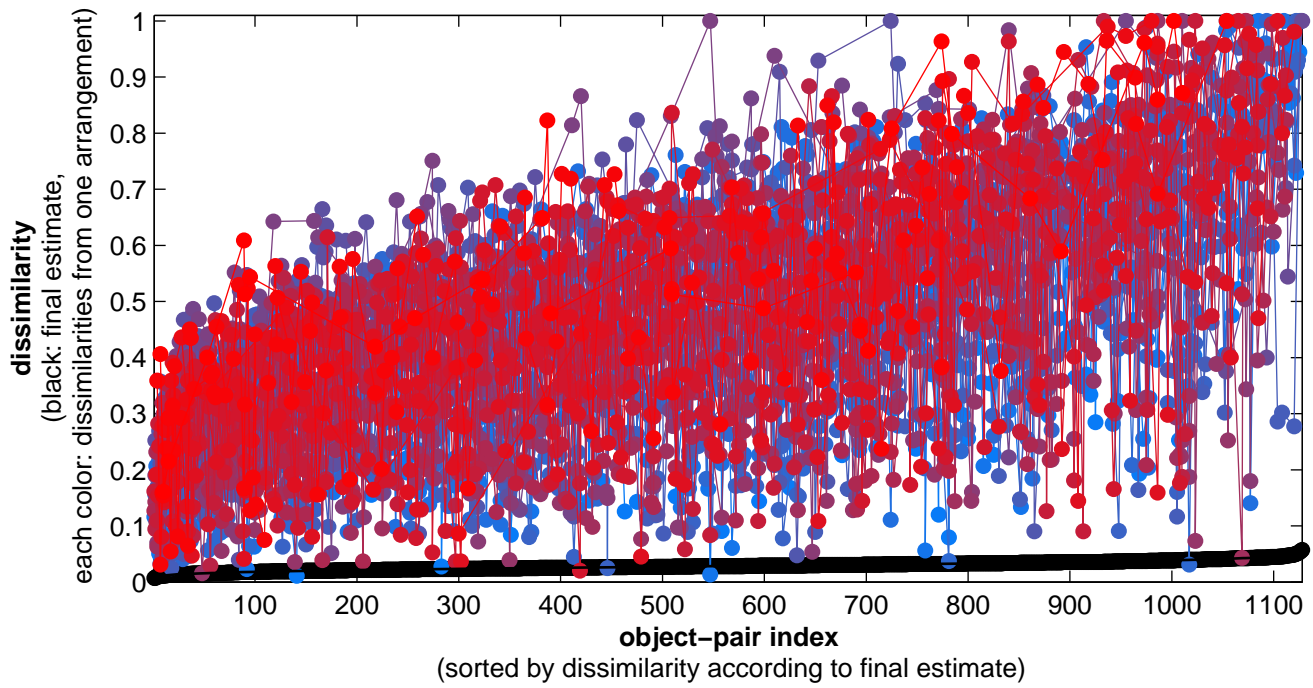
number of objects = 48, number of pairs = 1128





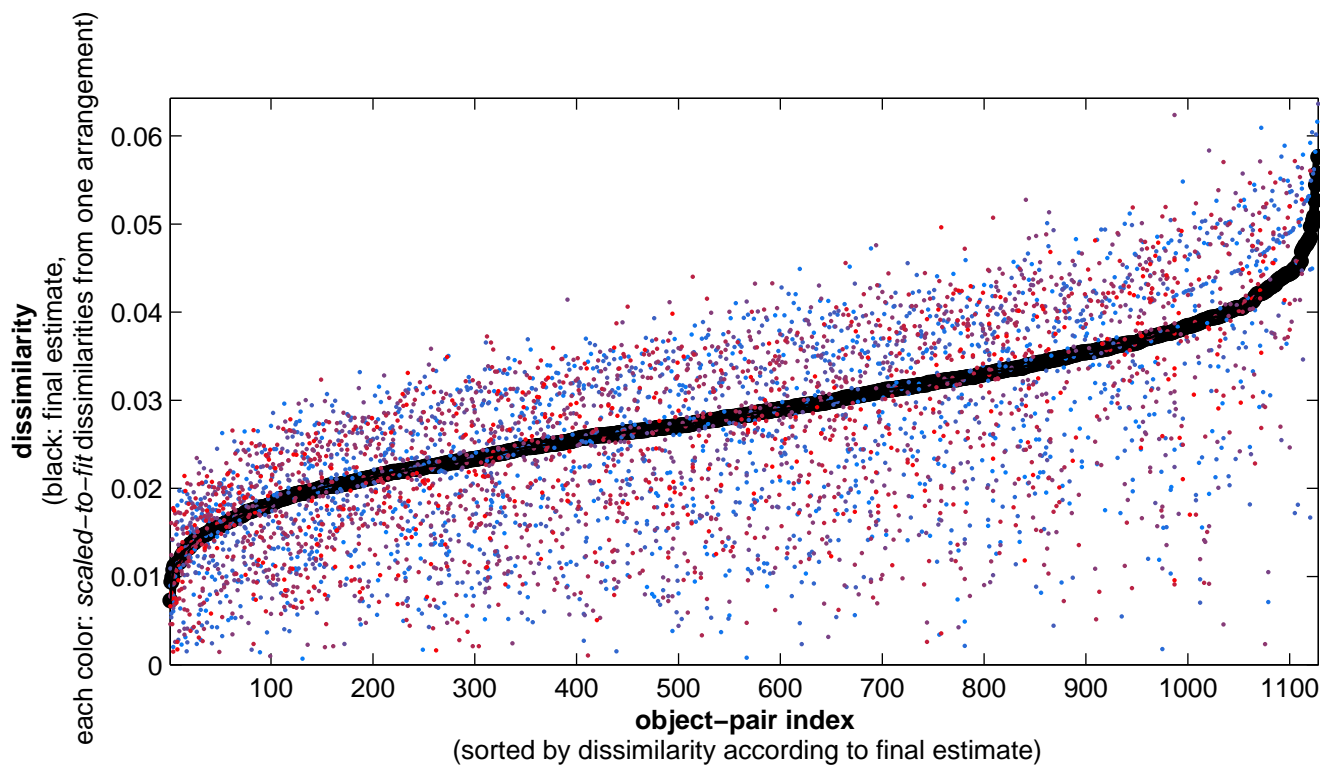
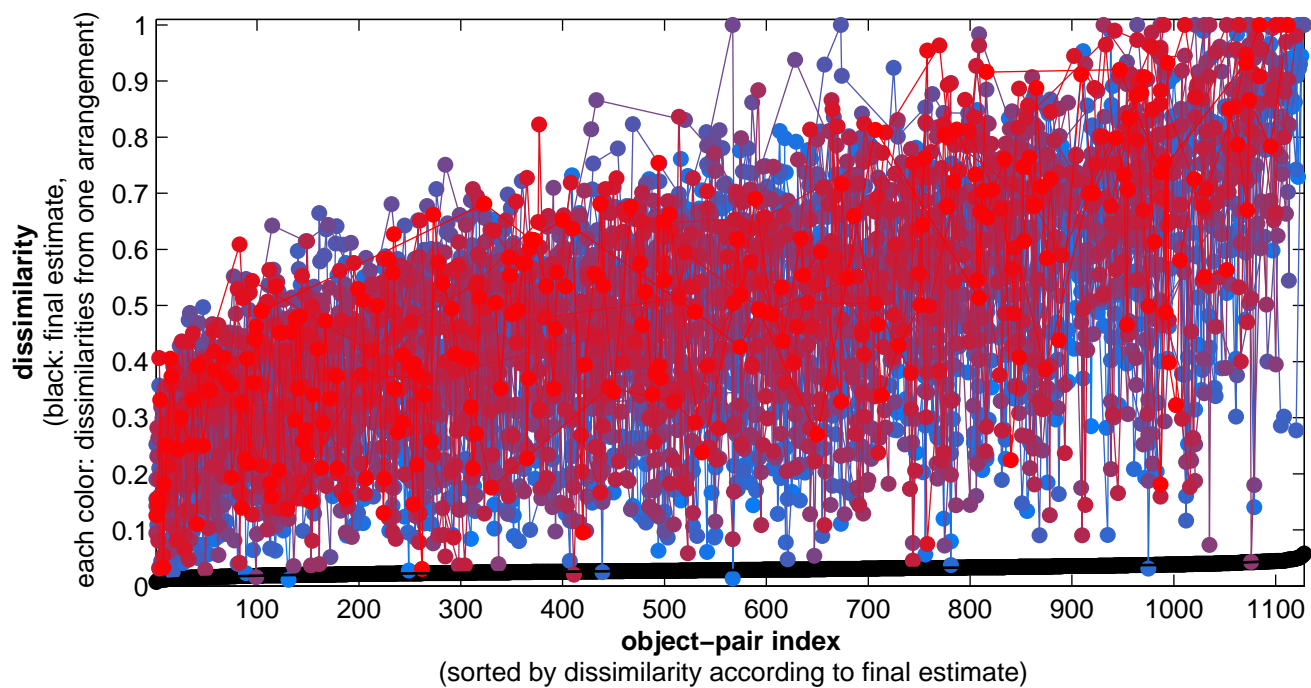
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



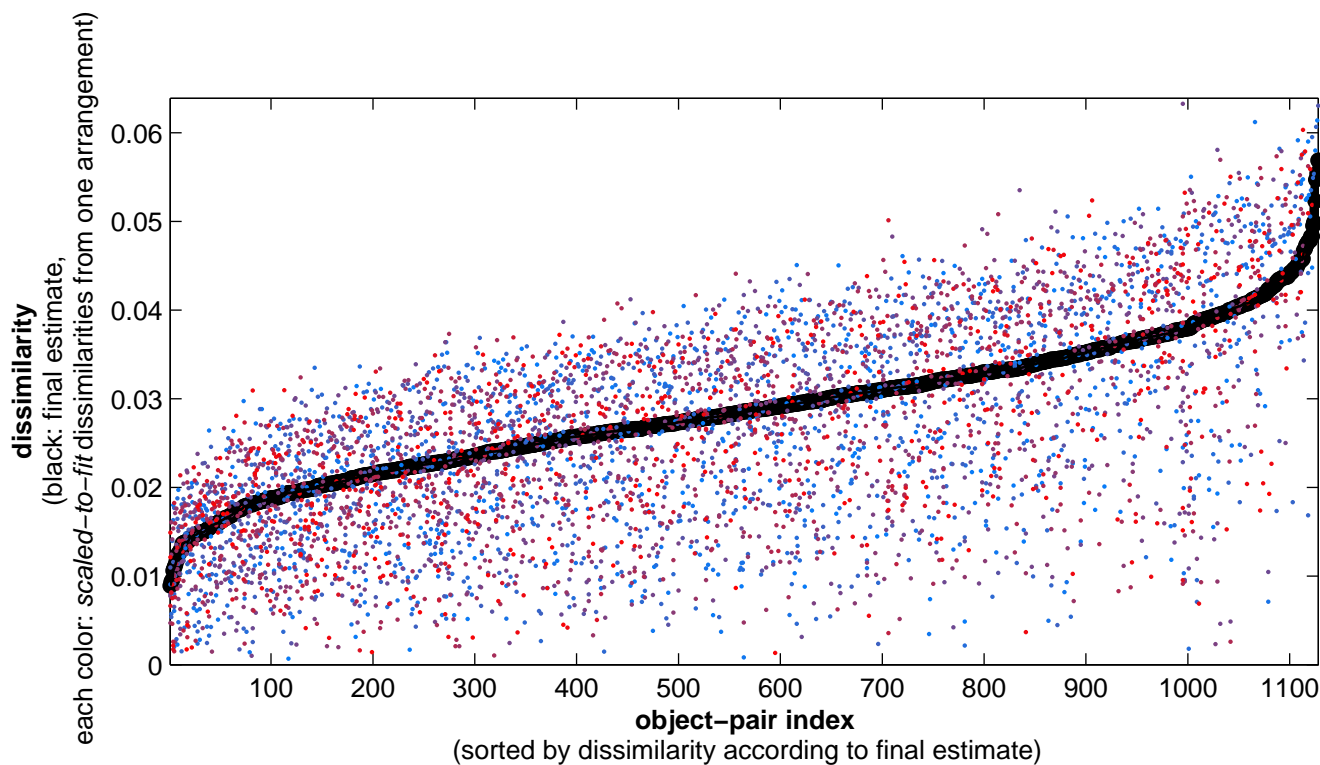
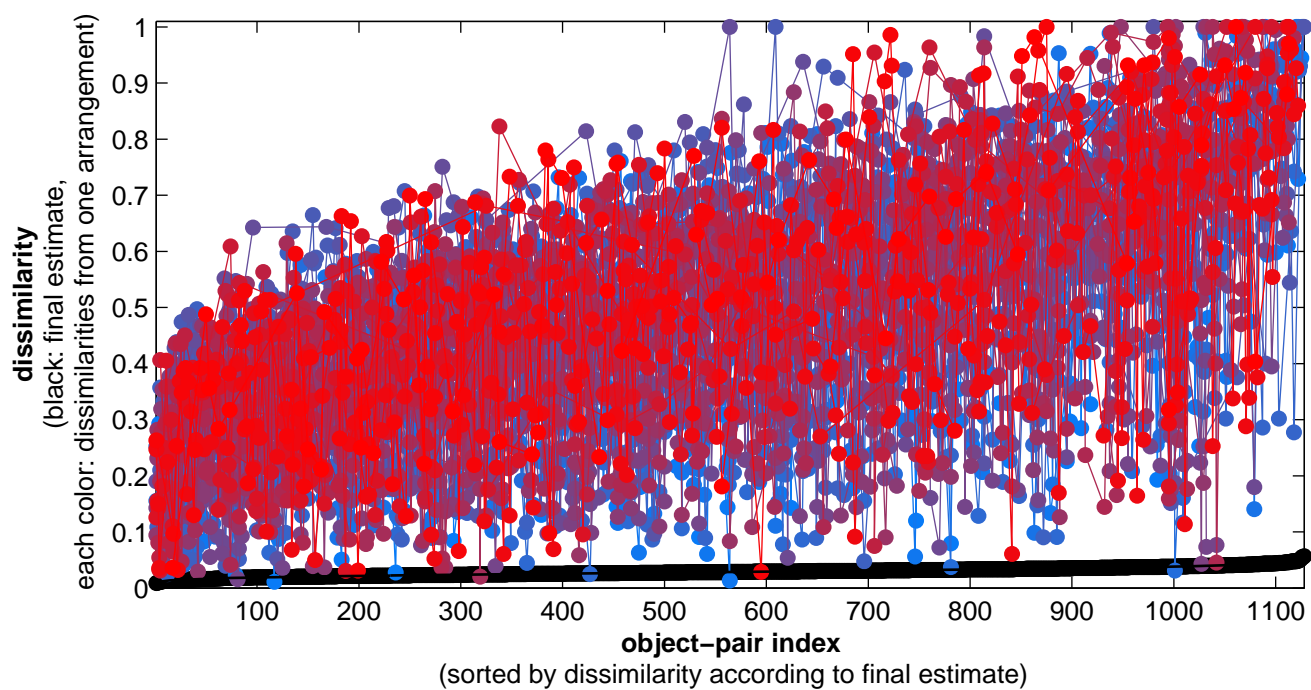
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



## MULTI-ARRANGEMENT

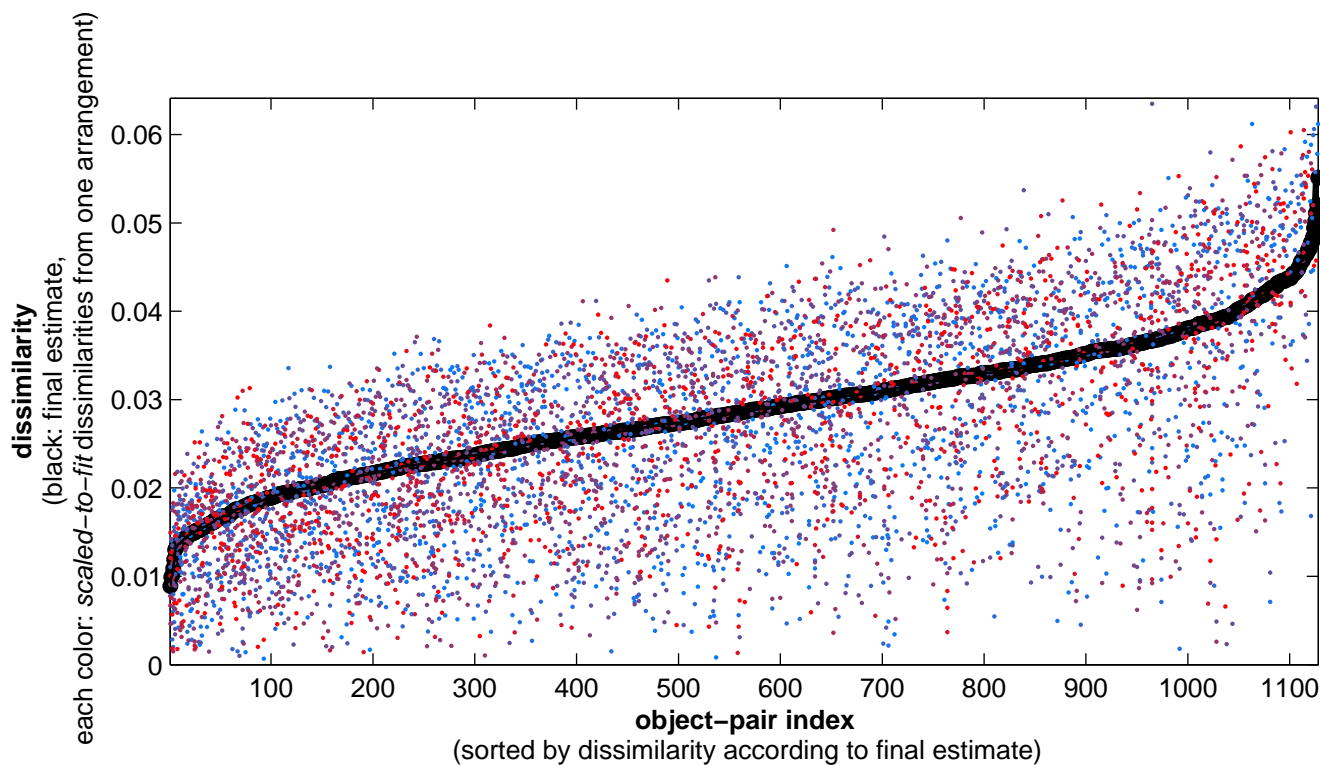
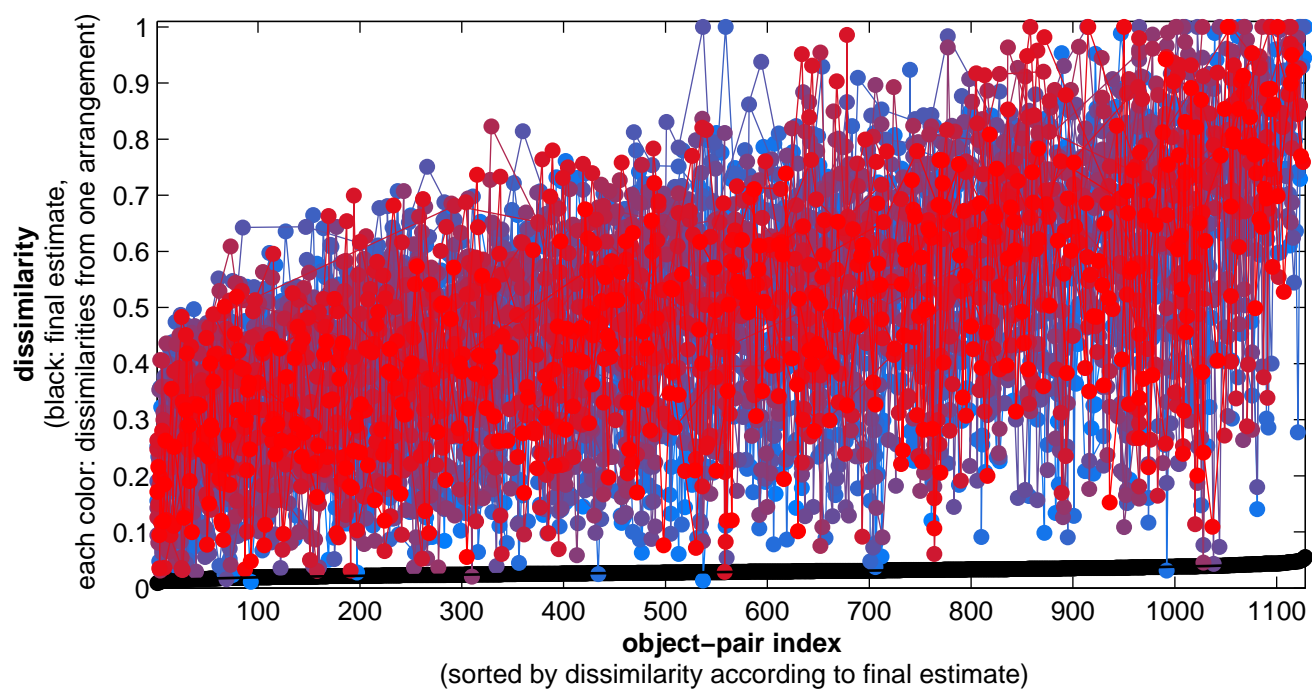
number of objects = 48, number of pairs = 1128





## MULTI-ARRANGEMENT

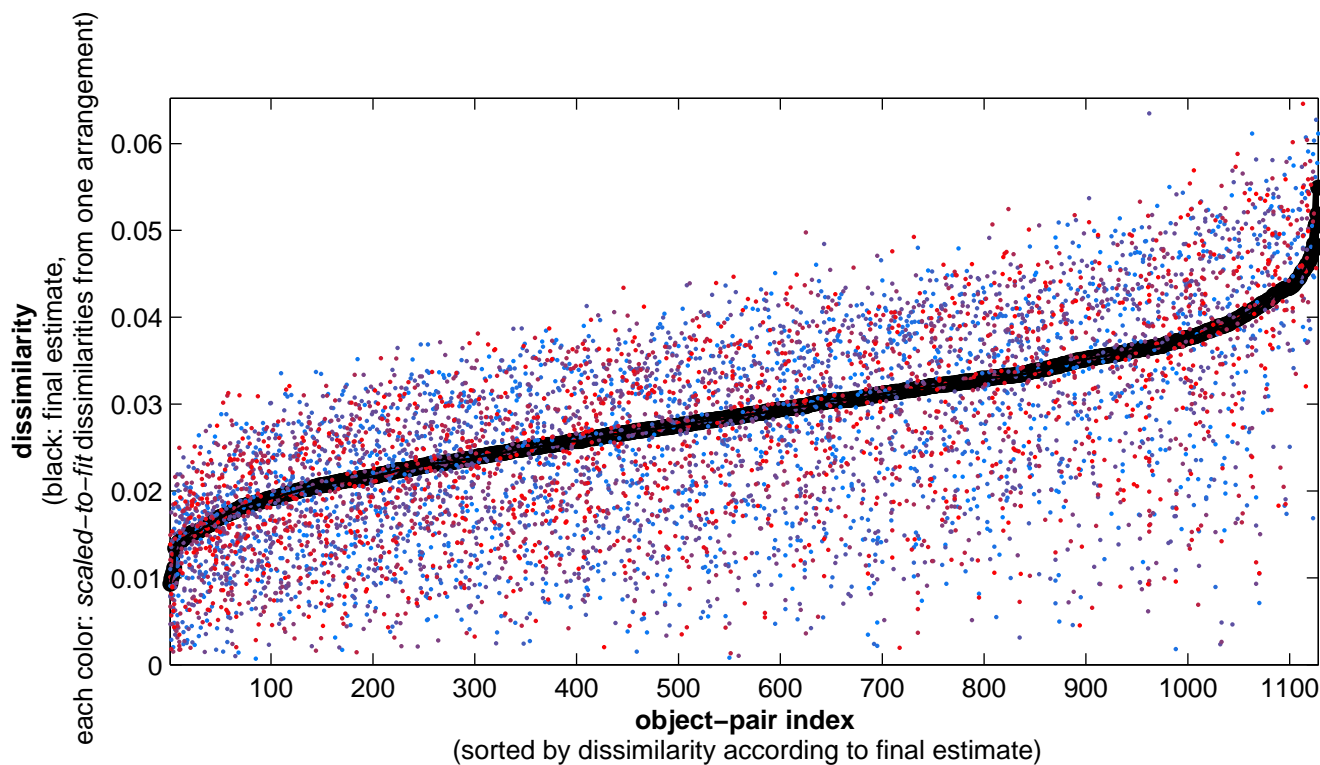
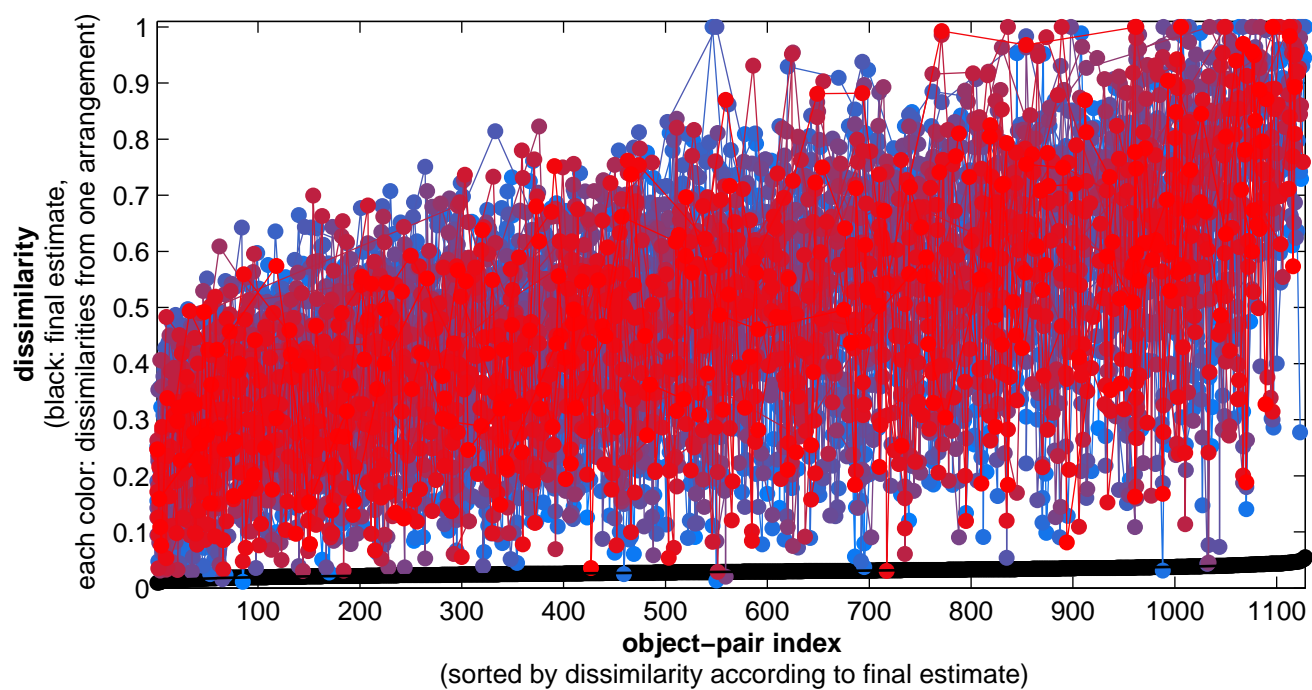
number of objects = 48, number of pairs = 1128





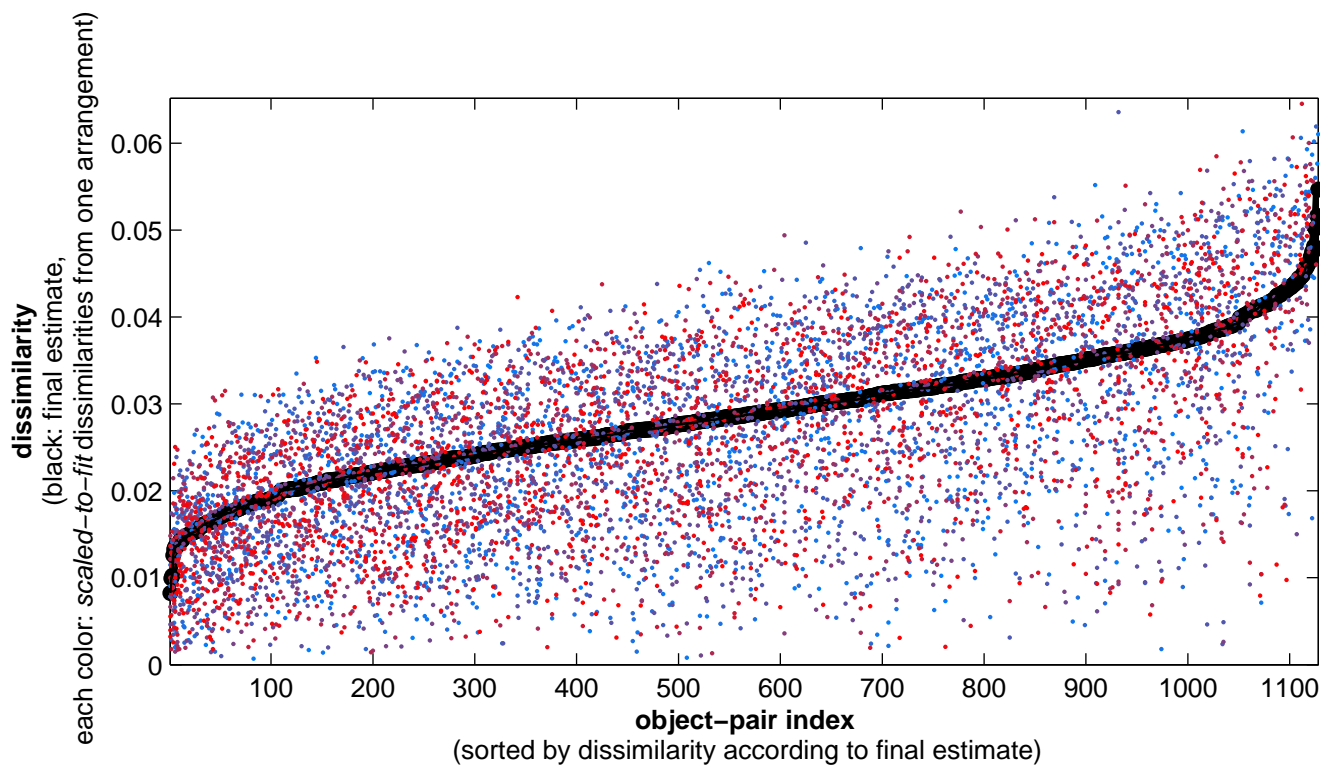
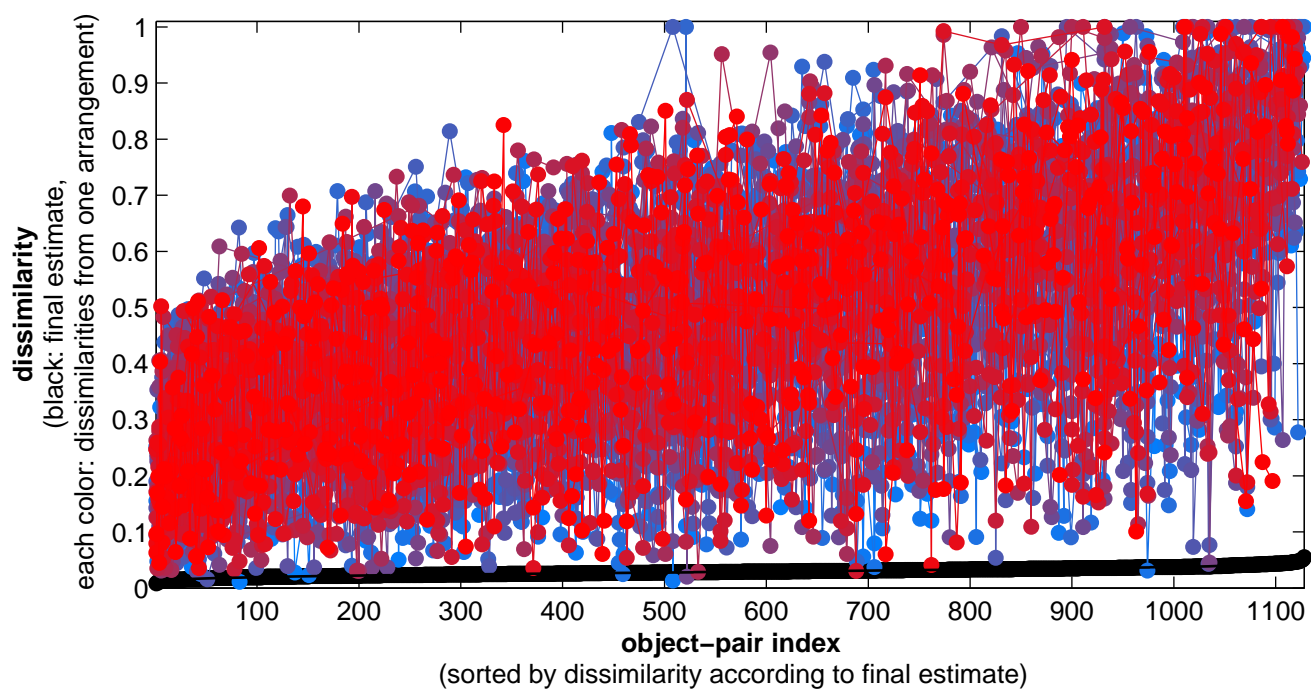
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128



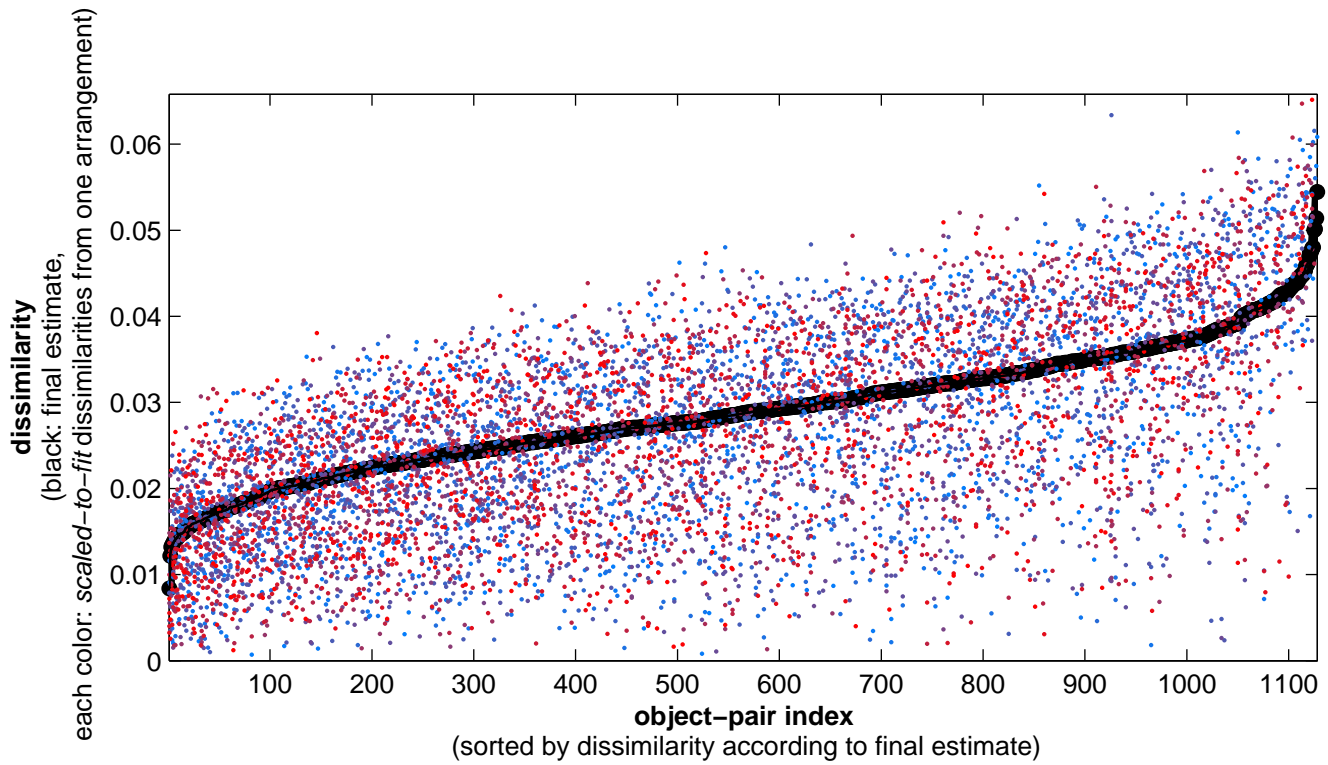
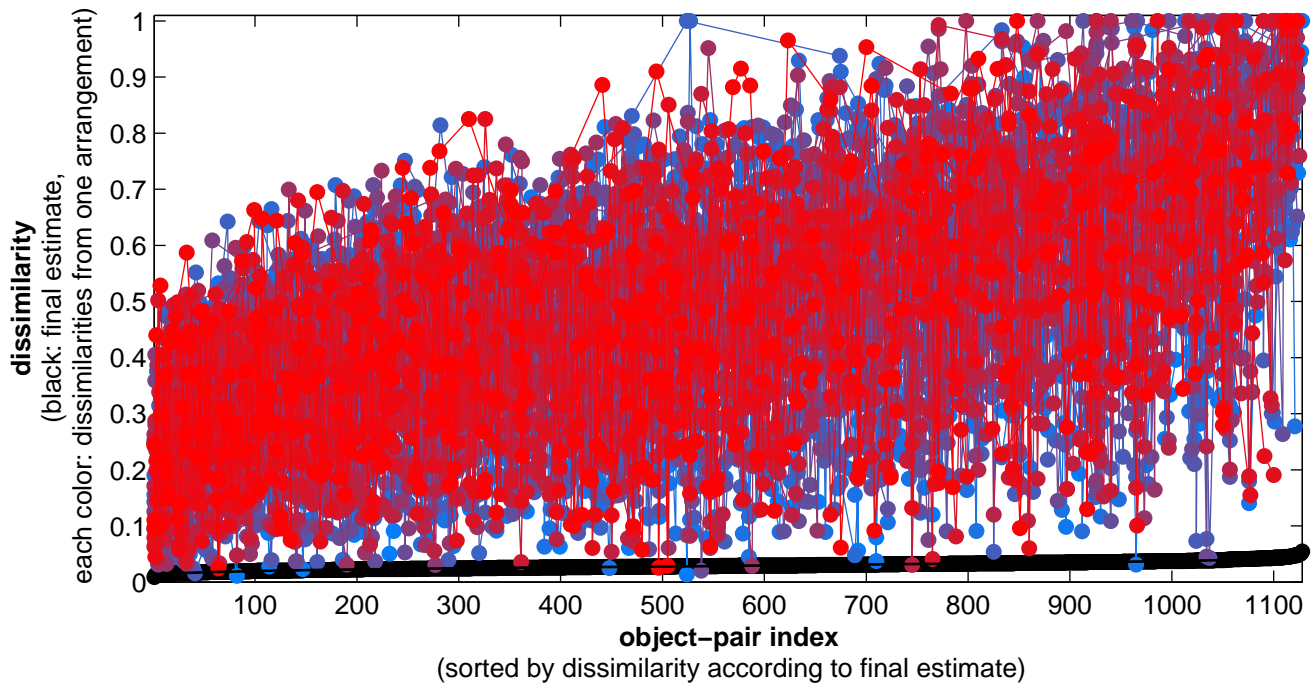
## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128

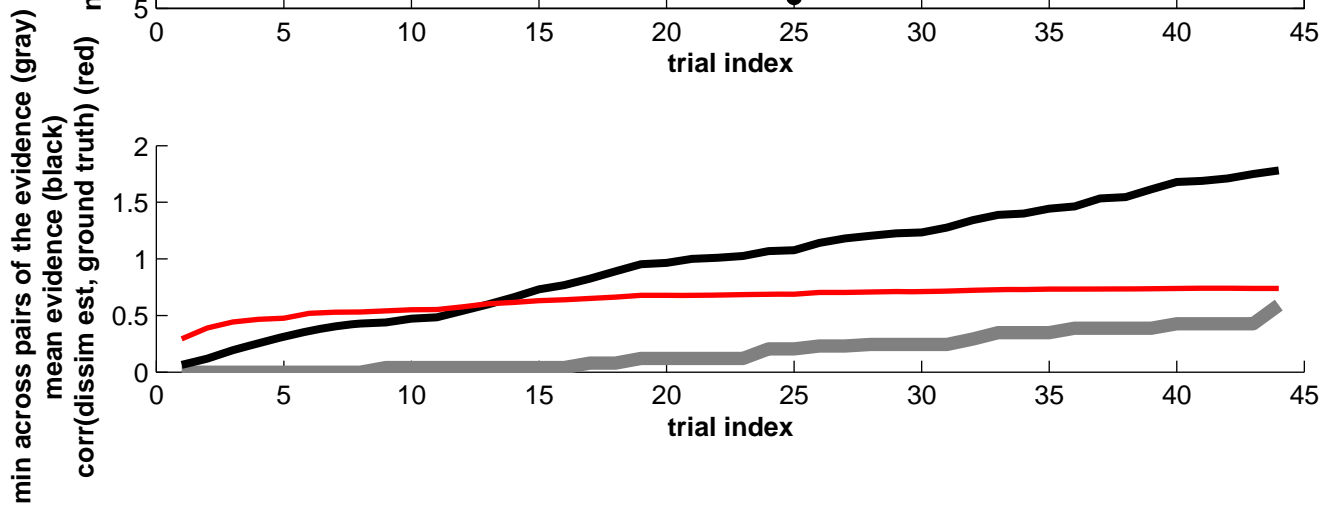
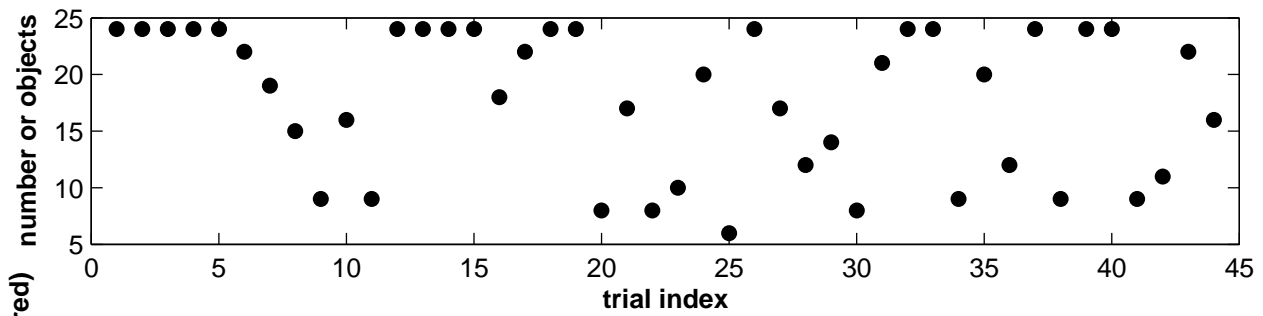
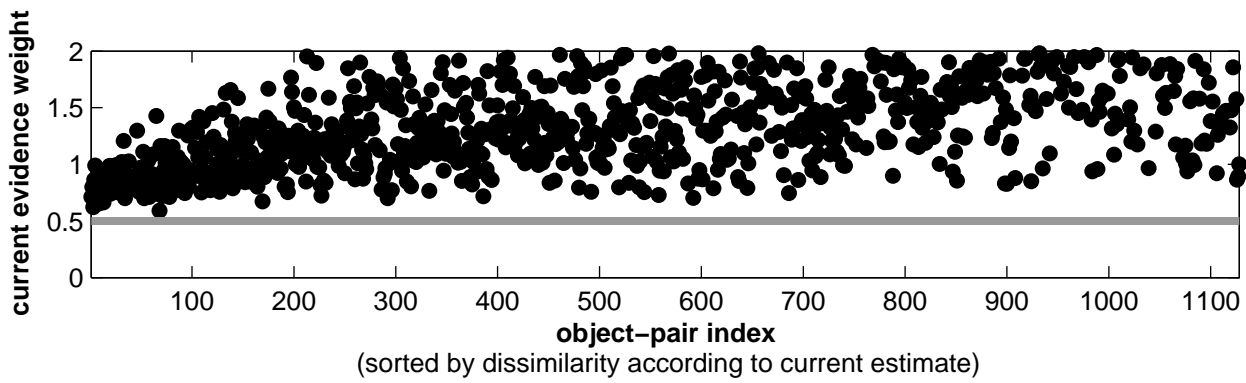
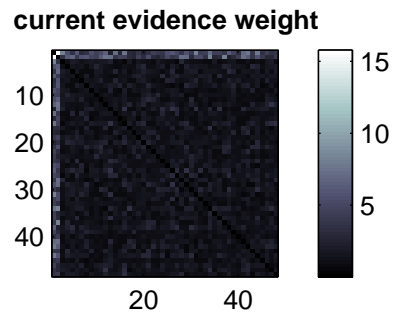


## MULTI-ARRANGEMENT

number of objects = 48, number of pairs = 1128

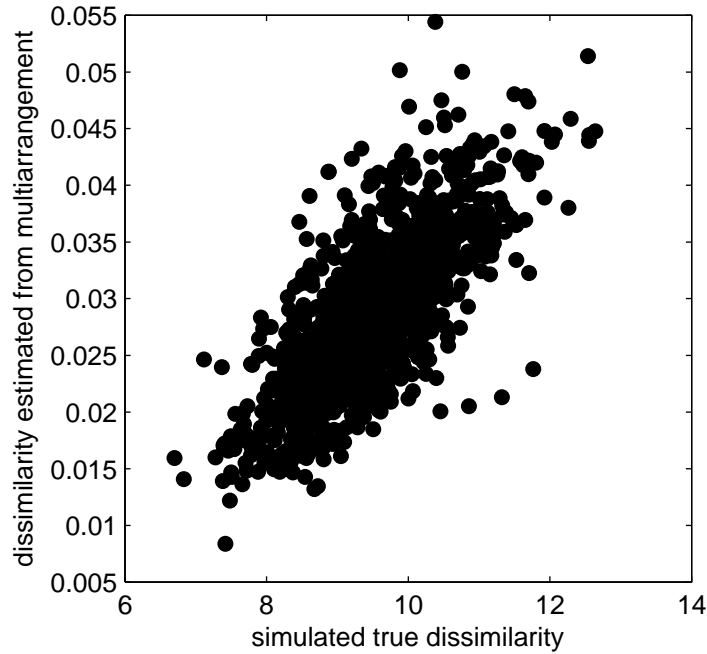


number of objects = 48



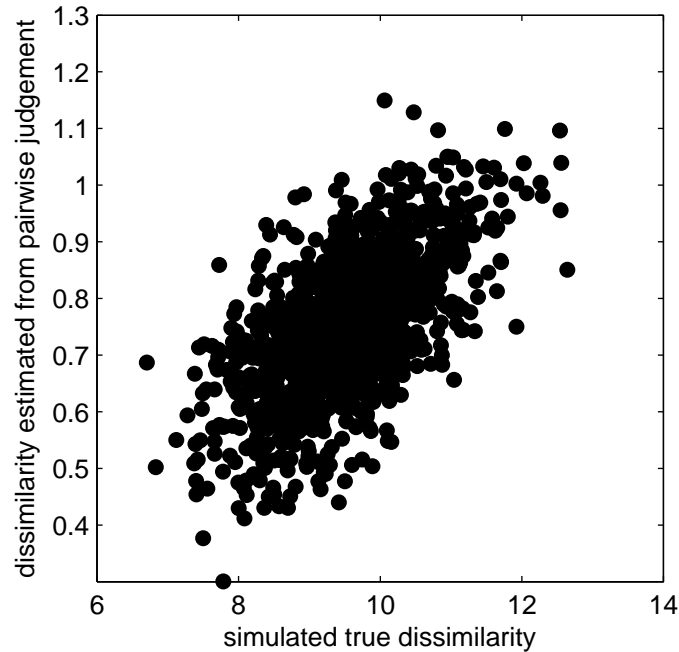
number of objects = 48

**MULTI-ARRANGEMENT (lift the weakest): correlation(true, estimated dissim.)**  
**r=0.74** (placement noise sigma = 0.1, total # objects placed = 787, # obj placed / # pairs = 0.698)



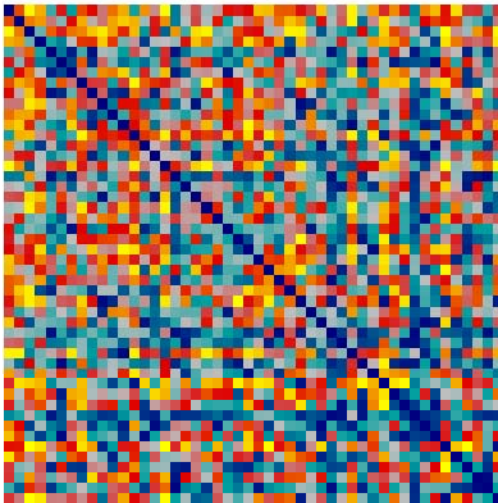
**PAIRWISE JUDGMENT: correlation(true, estimated dissim.)**

**r=0.614** (placement noise sigma = 0.1, # pairs judged = 1128)

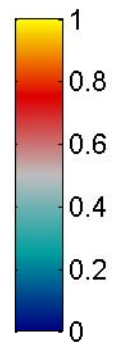




## multiple-trial RDM



each dissimilarity matrix ( $48^2$ )  
separately rank-transformed  
and scaled into [0,1]



## multiple-trial MDS plot

stimulus images in MDS arrangement  
(metricstress)



## Shepard plot

shepard plot (metricstress)

$\text{corr}(\text{dissimilarity}, \text{distance}) = 0.71$  (Pearson),  $= 0.7$  (Spearman)

