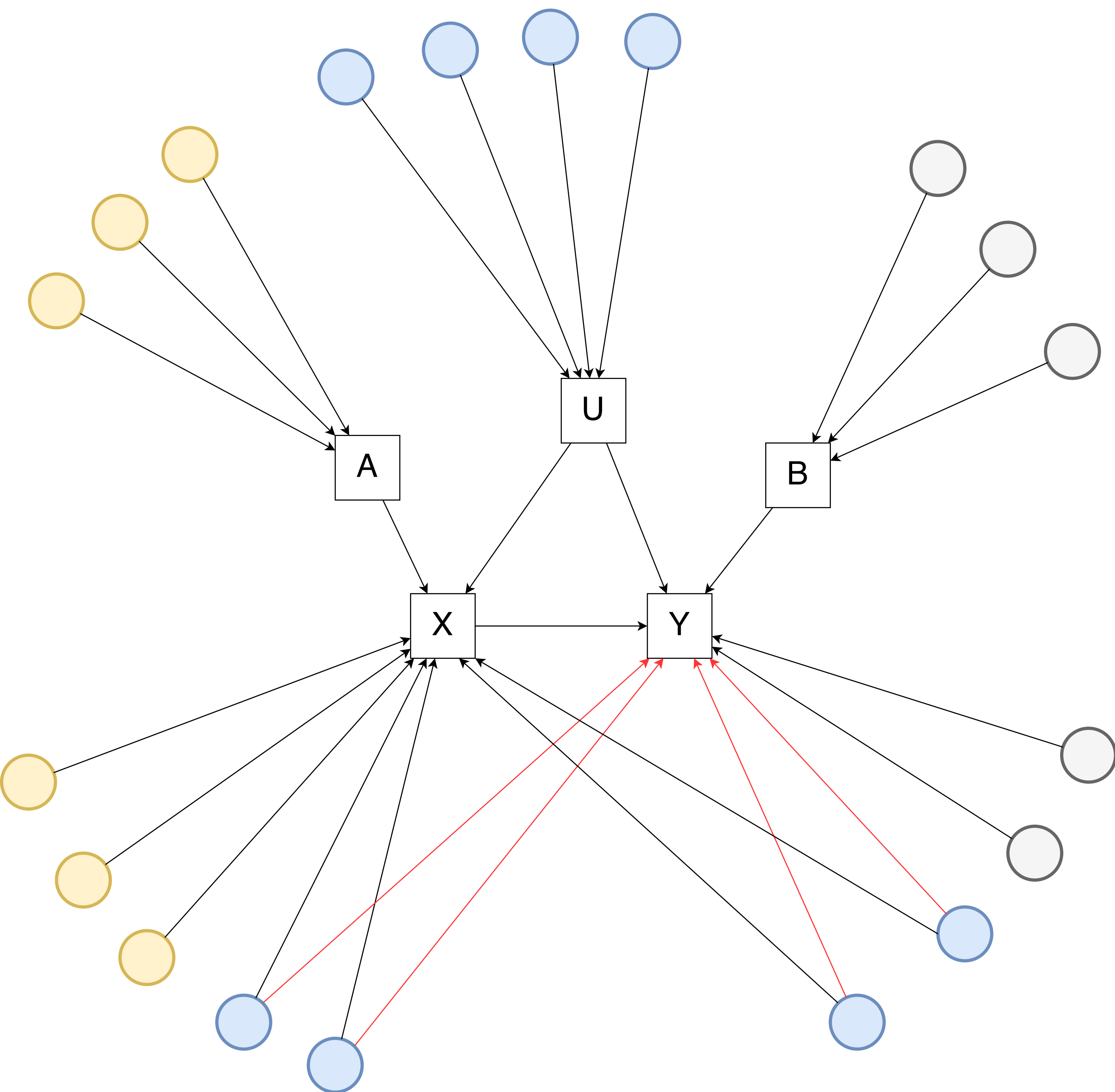
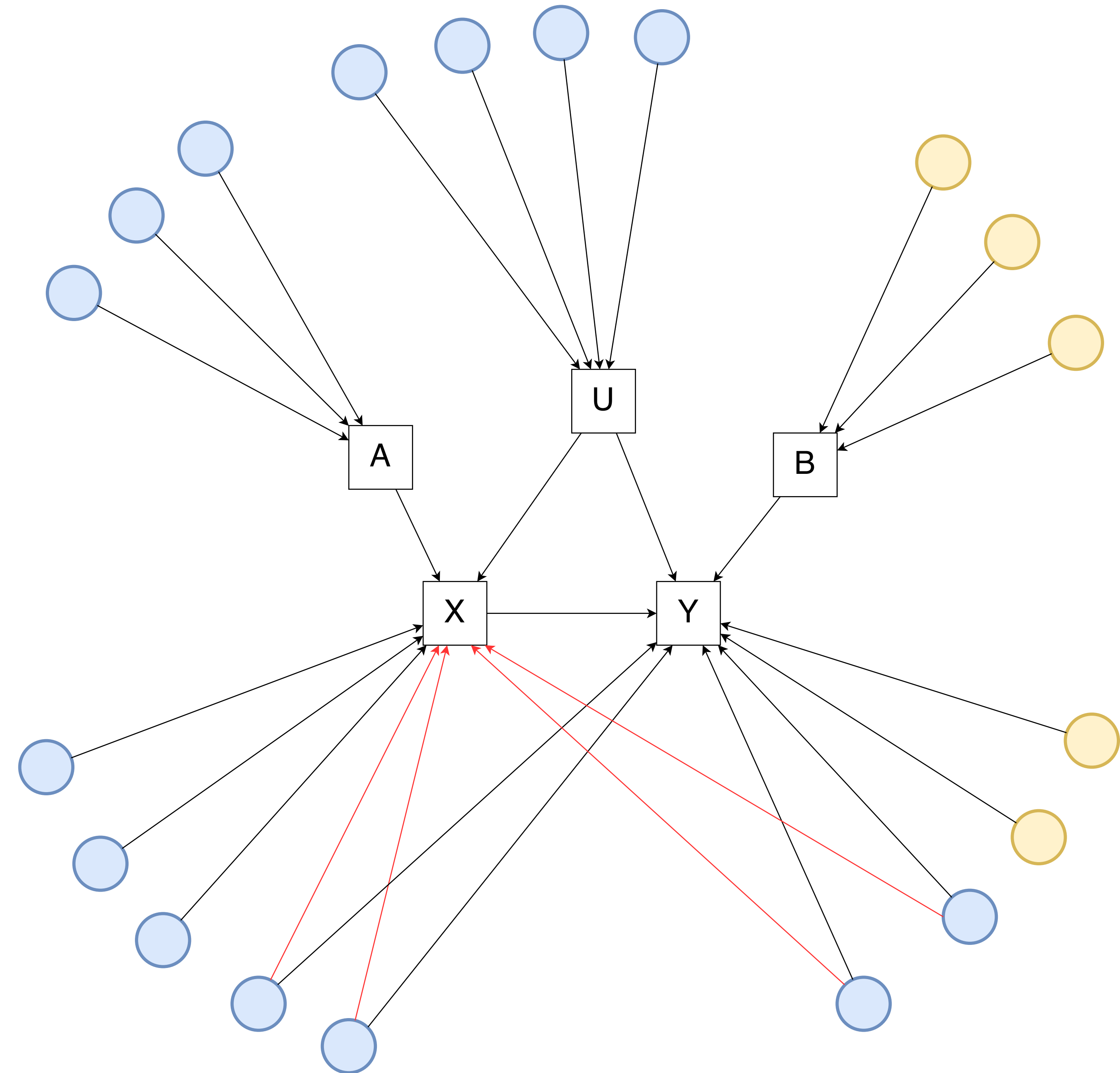


Identifying instruments for X against Y



Identifying instruments for Y against X



 Identified by GWAS on the exposure, valid instrument

 Identified by GWAS on the exposure, invalid instrument

 Not identified by GWAS on the exposure

 Horizontal pleiotropic effect