2-*N*-Sulfonylaminoaryl disulfides can be converted into the corresponding benzo[b][1,4]thiazines in one pot when reacted with an electron-rich alkene in the presence of a base and a substoichiometric amount of a copper salt. Depending upon the reaction conditions, and in particular the copper salt used, we observed the concurrent formation of variable amounts of the corresponding benzo[b][1,4]thiazine *S*-oxides that are not the result of a post-oxidation reaction. The overall procedure can provide simple access to benzo[b]thiazines or thiazine *S*,*S*-dioxides by sequential reduction or oxidation of the crude reaction mixtures.