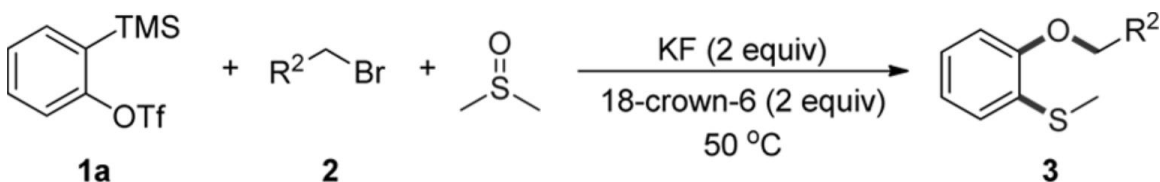
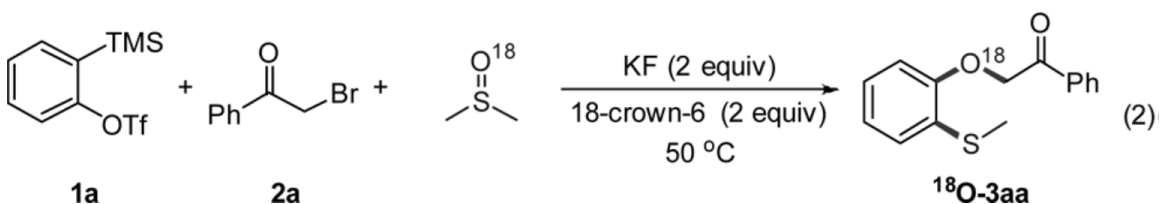
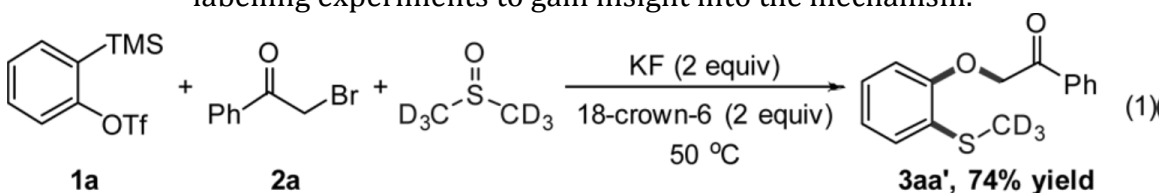


1. A recent publication reported the following transformation:



Propose a mechanism for this reaction. After this, the authors performed isotopic labelling experiments to gain insight into the mechanism.



With these results in mind, propose at least one (semi-)plausible mechanism that can be ruled out by each experiment. Note: 2 equiv of **2** used.

2. Propose a radical chain and radical cage mechanism for the following reaction under air:

