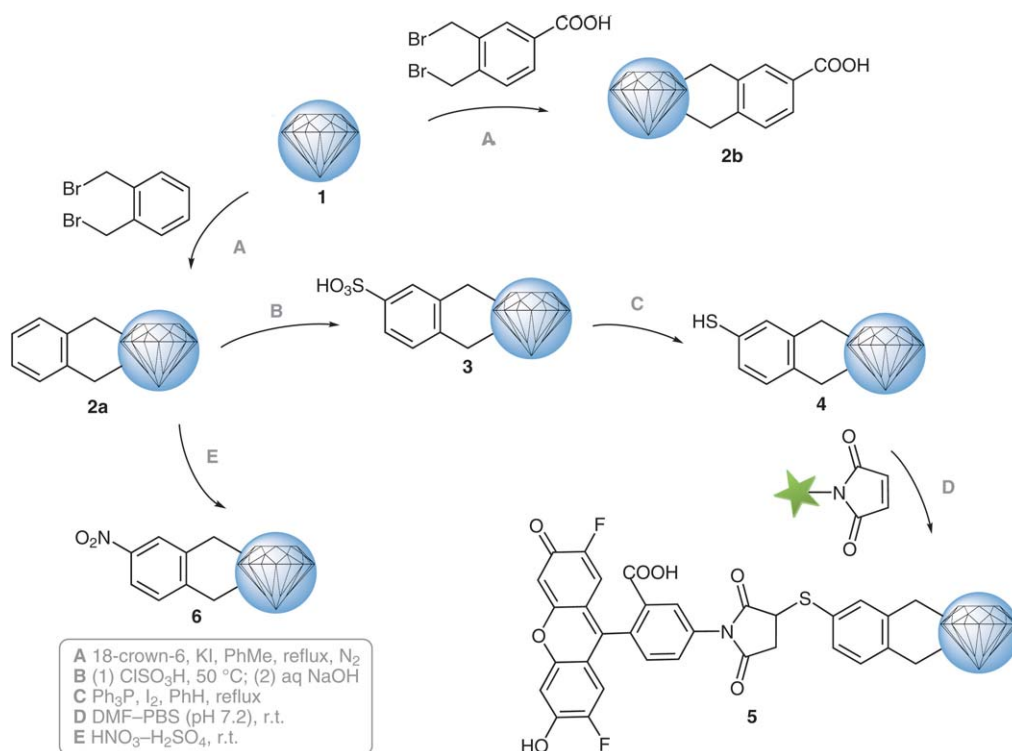


‘Hard-Core’ Diels–Alder



Significance: A Diels–Alder reaction is used for the first time to functionalize the surface of diamond nanoparticles. Direct C–C coupling is achieved by reacting *o*-quinodimethanes with π -bonds on the surface of thermally annealed nanodiamond. Increasing the annealing temperature and introducing electron-withdrawing groups to the diene both lead to higher surface loading.

Comment: This method offers facile modification of surface properties of nanodiamond. The arylated particles are very stable and can be further decorated by electrophilic aromatic substitution. For instance, 4-carboxy-*o*-quinodimethane-functionalized particles **2b** are soluble in water and PBS buffer, while Oregon Green tagged conjugate **5** can be purified by conventional column chromatography.