Rationally designed star-like triblock copolymers that were prepared by atom transfer radical polymerization were used as nanoreactors for the synthesis of semiconducting hollow nanoparticles that are inaccessible by conventional synthetic approaches. In their Communication (DOI: 10.1002/anie.201706182), Z. Lin and co-workers describe the preparation of uniform PbS and PbTe hollow nanoparticles according to this approach.