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Controlled copolymerization of functionalized fluorinated monomers leads to multi-functional block fluorocopolymers that are capable of assembly into discrete core-shell nanoparticles in water and macroscopic crosslinked networks in the bulk – each is a ternary amphiphilic functional fluorinated material. Learn more in the paper by Ma et al., p. 1159, and this issue's Research Front containing papers from the 11th Pacific Polymer Conference.