## Miktoarm Star Copolymers as High Efficiency Nanoparticulate Emulsifiers

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- Miktoarm star copolymers are nanoparticles that have more than one type of polymer arm surrounding a cross-linked polymer core.
- Adsorption of star copolymers to the oil/water interface is enhanced by the amphiphilicity of the arms.
- Amphiphilicity is controlled by incorporating arms with different solubilities into the same star.
- Atom transfer radical polymerization is used to prepare stars via macromonomer or macroinitiator approaches.

- When adsorbed at oil/water interfaces, water-soluble arms extend into the aqueous thin film between drops
- Large star copolymer adsorption energies stabilize emulsions



