P.16 PNIPAM microgels: A novel insight into their adsorption at fluid interfaces

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The thermo-responsive character of Poly N-Isopropyl Acrylamide (PNIPAM) microgels plays a key role in their affinity for fluid interfaces by tuning their adsorption ability. Further, the confinement of PNIPAM particles to a two-dimensional scenario gives rise to their conformational change causing them to spread out at the interface, along with an in-plane spatial re-organization.

We address here the effect of the temperature on the confinement of PNIPAM particles to a two-dimensional scenario such as the decane/water interface. These microgel particles are adsorbed irreversibly creating fluid-like layers at the interface. A jamming transition is observed when the accessible interfacial area is reduced. We note how the fluid-to-solid transition occurs at progressively lower area fractions as the temperature increases. By varying the temperature and hence the size and softness of the particles, we demonstrate which are the key factors controlling this jamming transition.

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