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Capillary forces between non-spherical colloids ERNST VAN NIEROP, DEAS, Harvard University, SASCHA HILGENFELDT, ESAM & Mechanical Engineering, Northwestern University — Uncharged, spherical colloidal particles at an air-water interface experience no significant interaction forces if their radii are below a critical size. However, strong attraction and repulsion can still be observed when the shape of the particles deviates even slightly from an ideal sphere. We show that *nm*-scale deviations from sphericity on *μm*-sized particles lead to interaction energies in excess of thermal energies, resulting in positional and orientational ordering at the interface. Dendritic or lattice-like rafts are observed, the latter showing hexagonal positional and herringbone orientational order.

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