

# **Bulk phase behaviour of mixtures of patchy colloids**

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Patchy colloids interact via a valence limited, directional, and specific potential due to the presence of patches on the colloidal surface. Pairs of patches can form reversible bonds which tie the particles together. A simple model for patchy colloids consists of hard-spheres decorated by attractive interaction sites on their surface. The distribution, number, and types of patches can be tuned such that patchy colloids self-assemble into novel structures that are not found in isotropically interacting colloids. Mixtures of patchy particles provide an additional handle for tuning the phase behaviour. In this talk I will summarize our research on mixtures of patchy colloids, focusing on the percolation properties.