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Modifying Receptor Binding Properties by Formation of Liquid Crystals and Tuning of Liquid-Crystalline Properties by Selective Molecular Recognition

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Supporting Information

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DSC analysis of the 1•DiC$_{16}$ and 1•C$_{16}$ complexes

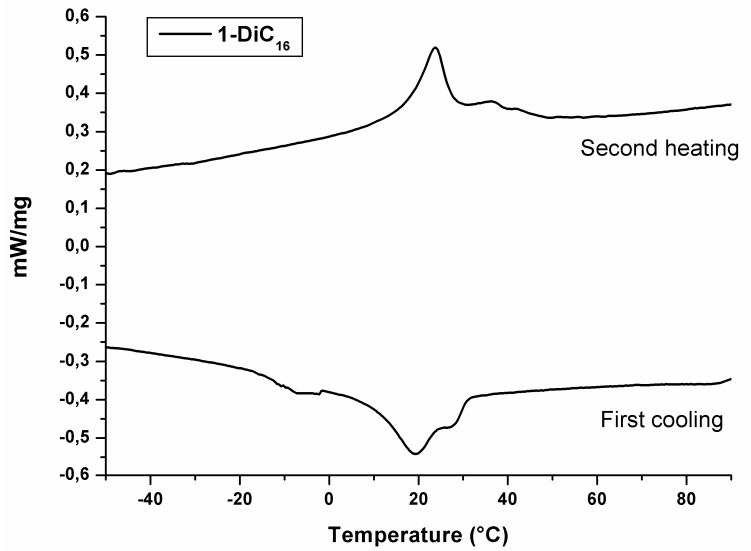

Figure S1a: DSC curves of **1•DiC$_{16}$**

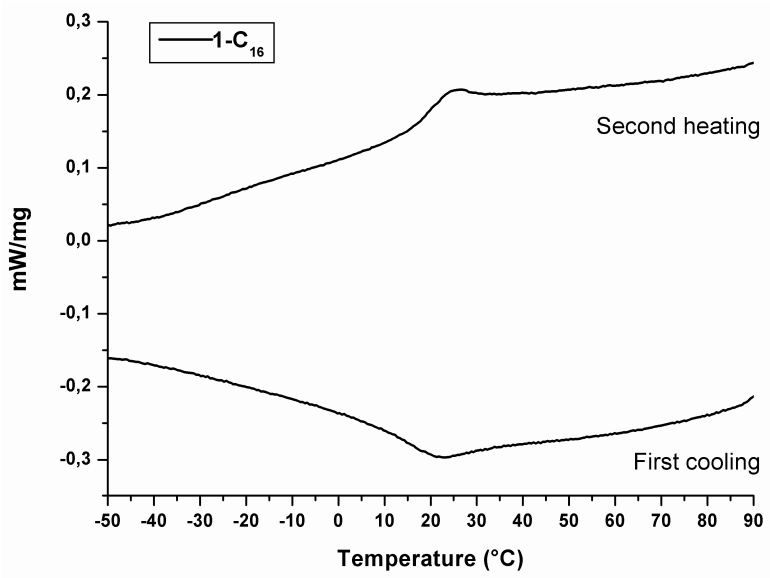

Figure S1b: DSC curves of **1•C$_{16}$**

Experiments with the receptor fragment Suc-Asp-Asp-Tyr(dye)-NHPr 3

As a control for the need of the diketopiperazine backbone to allow for liquid crystal formation, a molecular fragment Suc-Asp-Asp-Tyr(dye)-NHPr **3** (Pr = propyl, Suc = succinyl) equal to half of the receptor was utilized as tecton in the ISA process.

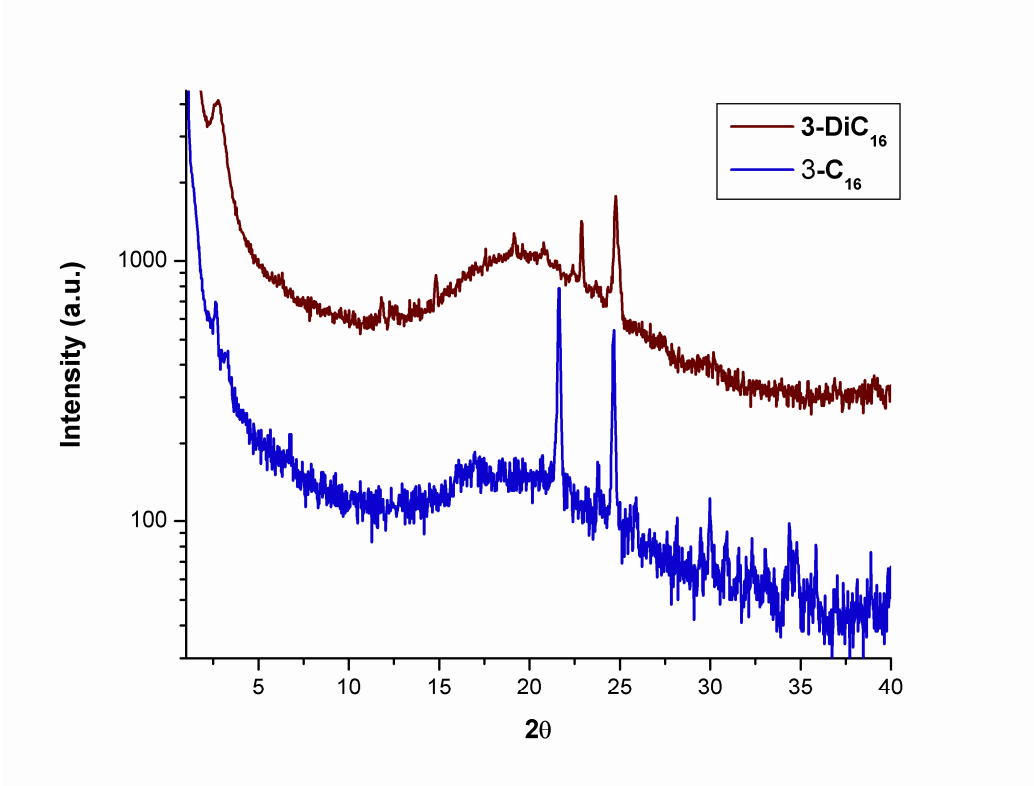

Figure S3: WAXS diffractogram of the **3•DiC$_{16}$** and **3•C$_{16}$** complexes.

WAXS analysis of the complexes between the surfactants **DiC$_{16}$** and **C$_{16}$** with peptide **3** yielded crystalline materials, i.e. where the packing and properties were dominated by the surfactant (and the covalently attached dye) contribution and not by the peptidic fragment (compare Figure S1). These results demonstrate the importance of the diketopiperazine template as a rigid spacer that is incompatible with the surfactant phase, thereby allowing for phase separation on a molecular scale, and consequent formation of ordered materials