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Novel star-shaped conjugated macromolecules with fused cores for photonic and electronic applications

Star-shaped oligofluorene-truxene materials are excellent materials for frequency downconversion and application in organic lasers and visible light communications. To open up the potential of star-shaped structures for applications such as OLEDs and OLETs, we designed novel core systems to improve aggregation in the solid state whilst retaining respectable levels of emission. In this talk, I present the synthesis and characterisation of some new materials, including TriR and Ind3HBC, which are based on soluble fused cores of graphene fragments.