

# Superfluorinated ionic liquid crystals via self-assembly driven by halogen bonding

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Halogen bonding (XB), namely any attractive interactions involving halogens as an electrophilic species (1), can be considered as a first-choice intermolecular interaction for effective design of self-assembly processes in supramolecular chemistry, crystal engineering, and materials science (2). A rather new intermolecular interaction being accessible, new aggregation processes can be realised with the novelty coming from either the molecular identity of the single components that are assembled or from the way the components are arranged in the supramolecular architecture.

In the field of liquid crystals, new fluorinated materials have been obtained owing to halogen bonding-driven self-assembly of non-mesomorphic building blocks, see Figure 1.(3)

Recently, the use of anionic XB-acceptors has proven effective in the design of dynamic porous materials.(4) In this communication we report a study on superfluorinated ionic liquid crystals obtained thanks to the noncovalent interaction of haloperfluorocarbons with anionic species.

## References

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**Figure 1**

