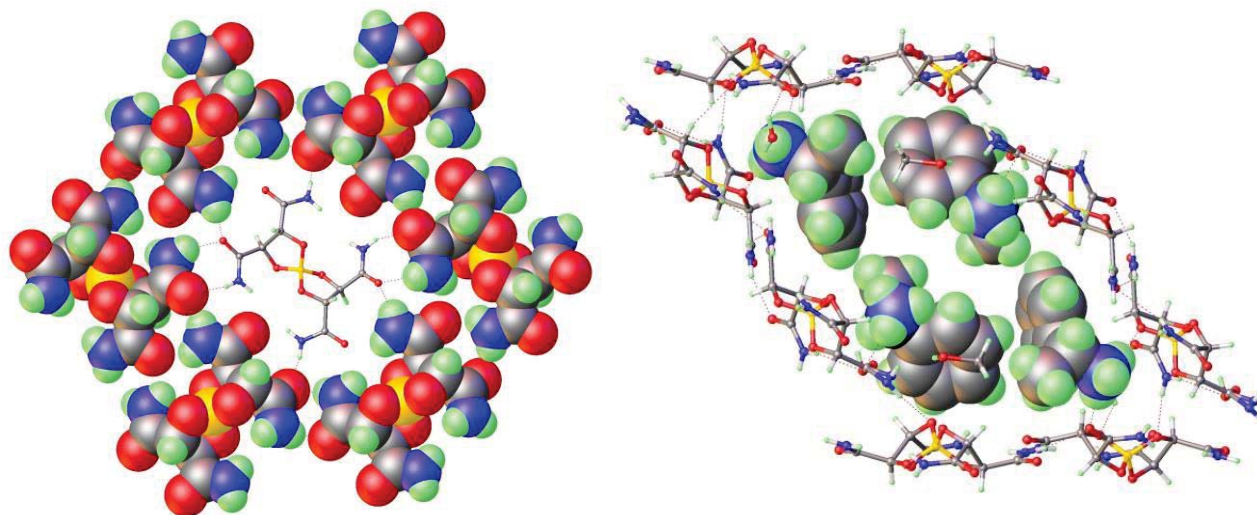


Chiral Segregation of Space by Anionic Assemblies found in Tartramide-based Spiroborate Salts

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Recently we prepared a spiroborate anion $[B(\text{Man})_2]$ (Man = mandelate) for the efficient resolution of a variety of chiral cations with excess of 90% ee in the first isolation step.[1,2] In seeking to extend to a family of spiroborate anions with application to resolution we have found novel anionic assemblies using $[B(\text{L-TarNH}_2)_2]$, which offer prospects for the dual resolution of both cations *and / or* neutral solvent in the chiral layers, channels or cavities formed by their H-bonded networks. In structures of around 50 salt phases studied to-date about 20 contain the sheet on the left. Inter-amide $\text{NH}\cdots\text{O}=\text{C R}_2(8)$ synthons are found to direct much of the self-aggregation, which may encapsulate cations and solvent in regular channels with chiral walls, such as the example shown on the right with $\text{R-NH}_3\text{CHMePh}$ cations.



A surprisingly wide array of structure types and nets can be found which are dependent on counter cation, solvent and crystallization conditions such as temperature and time. We are grateful to the Research Grants Council of Hong Kong for funding of this work (grant 16306515).

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[2] Wong L.W-Y.; Kan, J.W-H.; Sung, H.H-Y.; Li, D.; Williams, I.D. *Acta Cryst C.*, **2017**, *73*, 625-631.