Neutral Anion Receptors Effective in Highly Competitive Solvents

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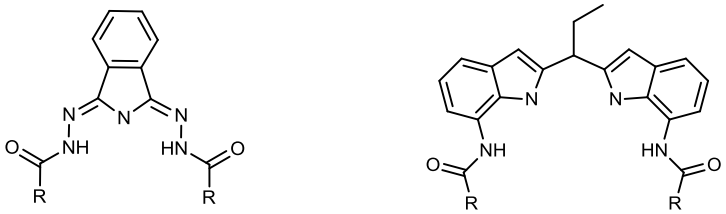
An understanding of the host-guest chemistry of anions is important in the fields of catalysis, analytical applications, medicine and industrial processes, and design and synthesis of receptors for anions is currently an area of extensive exploration. Much effort has been devoted to ligands that exploit hydrogen bonding, since such interactions can potentially lead to highly selective receptors. Due to its unique ability to act only as a hydrogen bond donor the pyrrole moiety is one of the most attractive building blocks for the construction of binding sites.[1]

We have recently been focused on tailored synthesis of simple, open chain anion receptors (amide and urea fictionalized benzopyrroles of type **1** and **2**), and on the relationship between their structure and complexation properties.



1 R= Alk, Ar, NHAlk, NHAr **2**

Using the receptors under consideration we examined their affinity towards anions by ^{1}H NMR titration, and we found that it is high, even in very competitive solvents (DMSO/water and methanol).[2,3] The structural analysis revealed the correlation between their conformational preferences and their affinity towards anions.

1. Sessler, J. L.; Gale, P.A.; Cho, W.-S. *Anion Receptor Chemistry*, RSC Publishing, Cambridge, 2006.
2. Dydio, P.; Zieliński, T.; Jurczak, J. *Chem. Commun*, **2009**, 4560-4562.
3. Dydio, P.; Zieliński, T.; Jurczak, J. *Org. Lett*. **2010,** *12*, 1076-1078.