

**Project 90301**  
**The Supramolecular Chemistry of Selective Anion Recognition for**  
**Anions of Environmental Relevance**  
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**RESULTS TO DATE:** In this first year of funding, progress has been made towards the stated project goal of generating useful sulfate extractants. A new series of bispyrrole-pyridine sulfate anion receptors was discovered and found to show very high sulfate-to-nitrate selectivity, a key prerequisite to generating a useful extractant. Progress was made towards developing the synthetic methodology needed to solubilize this system and other known receptors prepared by project collaborator, Prof. Kristin Bowman-James.

**DELIVERABLES:**

A paper describing the bispyrrole-pyridine sulfate anion receptor was published in Chem. Commun. and highlighted in C & E News.

Sessler, J. L.; Katayev, E.; Pantos, G. D.; Ustynyuk, Y. A. ?Synthesis and study of a new diamidodipyrromethane macrocycle. An anion receptor with a high sulfate-to-nitrate binding selectivity,? Chem. Commun. 2004, 1276-1277.

Macrocycle for Nuclear Waste,? Chemical Engineering News, June 7, 2004, p. 8.