

## **Ionic Liquids for the study of protein folding, and misfolding.**

Nolene Byrne, Jean-Philippe Belieres and C. Austen Angell  
Dept. of Chemistry and Biochemistry,  
Arizona State University,  
Tempe, AZ 85287-1604

### **Abstract.**

We review the protein folding problem and examine what is necessary to perform controlled studies of the folding process. We then show how a solution, of which an ionic liquid is the major component, can provide the optimum solution medium for this type of folding study. This solution proves to bestow extraordinary stability on the solutions and offers a new approach to the storage and transport of drugs and biomolecules. To understand the misfolding of proteins (the phenomenon responsible for a class of folding diseases of which Alzheimer's is the best known example but is only one of many), again ionic liquids can play a leading role.