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Combinatorial bio-inspired mixture as a novel medium for liquid/liquid extraction of ions SHU LIU, AN-TSUN WEI, HUI WANG, DAVID VAN WINKLE, STEVEN LENHERT, Florida State University, BIOLOGY DEPARTMENT IN FLORIDA STATE UNIVERSITY COLLABORATION, PHYSICS DEPARTMENT IN FLORIDA STATE UNIVERSITY COLLABORATION, INDUSTRIAL ENGINEERING DEPARTMENT IN FLORIDA STATE UNIVERSITY COLLABORATION — Nucleic acids and proteins are information containing biopolymers that carry specific genetic information. Lipids are another category of biological macromolecules but not thought of as information containing. Here we propose the idea that a group of lipid-like molecules can also detect and recognize inorganic ions as protein does. We study the extraction efficiency of small ions using a combination of lipids in oleic acid. We find that group of organic compounds shows supramolecular recognition. The effective combinations show distinct material properties, which is promising in biosensing field.

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