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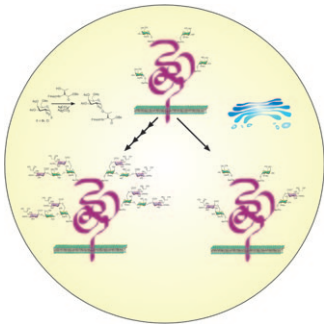
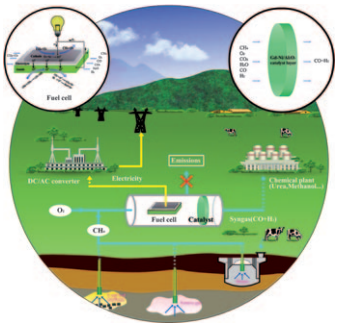
Cover Picture

Filip Ilievski, Aaron D. Mazzeo, Robert F. Shepherd, Xin Chen, and George M. Whitesides*

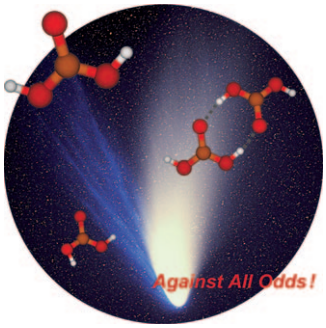
The starfish-like gripping device shown uses pneumatic networks embedded in an elastomeric structure to be capable of picking up a live, anesthetized mouse without harming it. In their Communication on page 1890 ff., G. M. Whitesides et. al. describe the pneumatic actuation of elastomeric (soft) structures of the type used in this sort of device, and in soft robots, which have the potential to be uniquely useful in handling fragile objects (for example, the mouse, or an uncooked egg).



Carbohydrate Antigens
The Tn antigen is an abnormal *O*-glycan involved in cancer and other diseases. R. D. Cummings et al. describe the complex biological and pathophysiological properties of this simple structural unit in their Review on page 1770 ff.



Fuel Cells
In their Communication on page 1792 ff., Z. P. Shao and co-workers describe how a single-chamber solid oxide fuel cell can be used to generate both electric power and synthesis gas from methane without emissions.



Gaseous Carbonic Acid
In their Communication on page 1939 ff., H. Grothe, T. Loerting et al. report the IR spectra of carbonic acid molecules trapped from the gas phase, information critical in identifying this compound in astrophysical environments.