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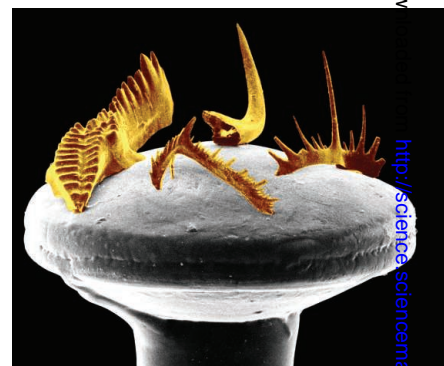
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COVER

False-colored scanning electron microscopy image of carbonate-silica "flowers," each ~50 micrometers high. A vast array of similarly complex, well-defined microstructures can be sculpted by manipulating conditions such as pH, temperature, and carbon dioxide concentration. With insight into molecular growth mechanisms, these structures are dynamically steered toward arbitrary, hierarchically assembled architectures. See pages 822 and 832, as well as a slideshow online.

Image: Wim Noorduin and Joanna Aizenberg

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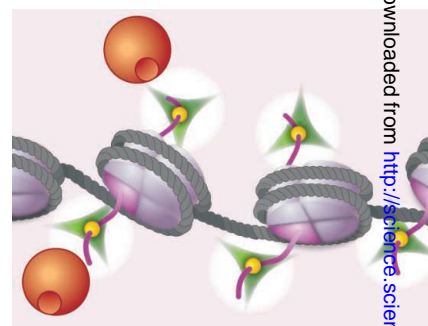
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