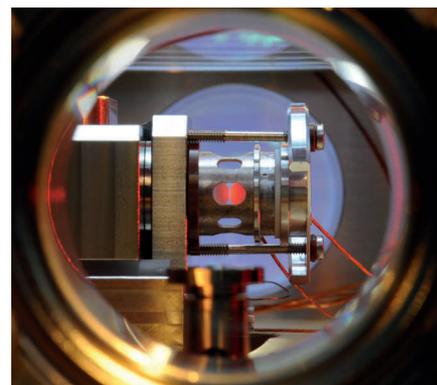




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48 Mirror cabinet: Laser light keeps single atoms afloat in this vacuum chamber.

18 FOCUS

New Energy through Chemistry

18 Climate Protection in a Nanosponge

There is a surplus of carbon dioxide on Earth – and not necessarily to the advantage of the environment. Chemists, on the other hand, want to make a virtue of necessity and use carbon dioxide as a chemical raw material, which would keep the greenhouse gas out of the atmosphere.

26 Hunting for Treasure among the Wood Chips

Wood waste and straw contain important substances for the chemical industry. We just have to find them and develop tools for extracting the valuable compounds and using them as energy sources.

34 Carbon Acts as a Chemical Dating Agency

Almost nothing happens in chemistry without catalysts. But the reaction accelerators have one disadvantage: they often contain – sometimes rare – metals that need large amounts of energy to do their job. But maybe it is possible to do without them?

ON THE COVER: These xylose crystals, imaged under polarized light, resemble an abstract painting. Xylose is also known as wood sugar, and is released in depolymerization processes. In these experiments, researchers are looking for chemical compounds that can be used as energy sources and raw materials.

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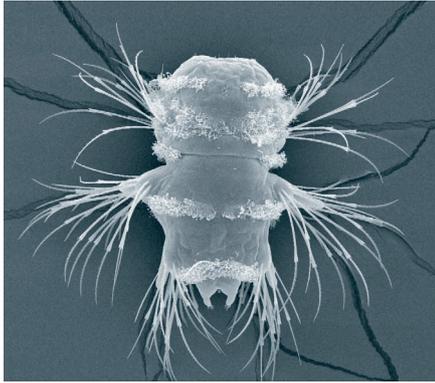
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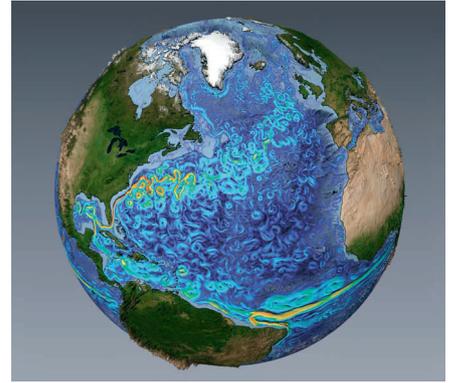
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The larvae of the ragworm possess the simplest eyes in the world. This makes the animal a perfect model organism for studying, for instance, how sensory stimuli are relayed.

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