The porous deposit of candle soot can be used as a template for a super oil- and water-repellent coating. The soot is coated with a thin silica shell to form a replica and is then removed by calcination. The silica is treated with a fluorosilane, yielding a transparent, stable coating. This cheap and easily upscalable approach may inspire the design of anti-fingerprint coatings, which are desirable for touchscreens or glasses. See page 67.

Photo illustration: Bricelyn Strauch and Yana Hammond/Science; candle image: Fotosearch
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**53** The Technology Path to Deep Greenhouse Gas Emissions Cuts by 2050: The Pivotal Role of Electricity
J. H. Williams et al.
Reducing greenhouse gas emissions to 80% below 1990 levels by 2050 requires widespread electrification of transportation and other sectors.

**82** Fitness Trade-Offs and Environmentally Induced Mutation Buffering in Isogenic *C. elegans*
M. O. Casanueva et al.
Stochastic variation in a cellular stress response pathway can predict the outcome of mutations in individuals.

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F.-F. Soon et al.
Two players and one chair regulate this plant hormone signaling cascade.

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A specially constructed electron microscope can probe plasmon fields created by optically exciting metal nanoparticles.

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B. Weber et al.
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**67** Candle Soot as a Template for a Transparent Robust Superamphiphobic Coating
X. Deng et al.
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**70** Capturing Ultrasmall EMT Zeolite from Template-Free Systems
E.-P. Ng et al.
Control of the early stages of nucleation favors the synthesis of large-pore zeolite crystals –10 nanometers in size.

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Thermochronology indicates a balance between low erosion rates and slow thermal cooling in old continental crust.

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D. Matei et al.
The strength of an ocean current that transports heat to Europe can be predicted up to 4 years in advance.

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R. Rajakumar et al.
The potential for developing “supersoldiers” has remained dormant in the ant genus *Pheidole* for at least 30 million years.

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Lack of the transporter critical for recycling of nucleosides after phagocytosis results in a fatal expansion of macrophages.

**89** Dystroglycan Function Requires Xylosyl- and Glucuronyltransferase Activities of LARGE
K. Inamori et al.
A bifunctional enzyme adds a heteropolysaccharide to an extracellular matrix receptor, enabling it to bind laminin.

**93** RNA Elimination Machinery Targeting Meiotic mRNAs Promotes Facultative Heterochromatin Formation
M. Zofall et al.
RNA processing factors regulate the assembly of heterochromatin at individual gene loci in fission yeast.

**96** Asymmetry and Aging of Mycobacterial Cells Lead to Variable Growth and Antibiotic Susceptibility
B. B. Aldridge et al.
The growing pole of the tuberculosis-causing bacterium is inherited by only one offspring, which can then elongate faster.

**100** Langerhans Cells Facilitate Epithelial DNA Damage and Squamous Cell Carcinoma
B. G. Modi et al.
A specialized immune cell population in the skin promotes tumorigenesis by metabolizing environmental carcinogens.

**104** Stop Signals Provide Cross Inhibition in Collective Decision-Making by Honeybee Swarms
T. D. Seeley et al.
Scout bees bring about nest-site decisions by targeting stop signals at bees with other candidate sites.
A Surprising Threshold for Seabird Survival

A surprising threshold for seabird survival has been discovered, where the maximum size of a species' prey stock falls below one-third of its maximum size, leading to a decrease in the probability of survival. This threshold is important for the conservation of seabird populations and understanding their ecological dynamics.

RESEARCH ARTICLE: Inhibition of PP1 Phosphatase Activity by HBx—A Mechanism for the Activation of Hepatitis B Virus Transcription

D. Coupel et al.

A virus prolongs the activity of a host transcription factor to promote expression of viral genes. This research provides insights into the mechanisms of viral gene expression and the development of antiviral strategies.

RESEARCH ARTICLE: Incoherent Feedforward Control Governs Adaptation of Activated Ras in a Eukaryotic Chemotaxis Pathway

R. Straube et al.

Rapid adaptation to changes in chemoattractant concentration involves an incoherent feedforward structure of the underlying signaling network. This study advances our understanding of cellular adaptation mechanisms.

Comment on "Nonreciprocal Light Propagation in a Silicon Photonic Circuit"

S. Fan et al.

Full text: www.sciencemag.org/cgi/content/full/335/6064/38-b

Response to Comment on "Nonreciprocal Light Propagation in a Silicon Photonic Circuit"

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