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Sunset for silicon? The push toward electronics that are smaller, faster, and more flexible requires either new inorganic and organic materials or new functionality for silicon and new transistor designs. See the special section beginning on page 1595.

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- 1613 **A Southern Tyrant Reptile**
R. B. J. Benson et al.
Fossil evidence indicates that tyrannosaurs also inhabited the southern continents in the late Early Cretaceous period.

RESEARCH ARTICLE

- 1614 **Doc2b Is a High-Affinity Ca²⁺ Sensor for Spontaneous Neurotransmitter Release**
A. J. Groffen et al.
Spontaneous synaptic vesicle fusion is triggered by soluble proteins that compete with synaptotagmins to induce membrane curvature.

REPORTS

- 1619 **Dark Matter Search Results from the CDMS II Experiment**
The CDMS II Collaboration
Details of possible, but unlikely, detection events produced by dark matter are reported.
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- 1621 **Anomalous Expansion of Attractively Interacting Fermionic Atoms in an Optical Lattice**
L. Hackermüller et al.
Thermodynamic effects cause an ultracold potassium gas to expand unexpectedly when the attraction between atoms is increased.
- 1624 **Strontium-Doped Perovskites Rival Platinum Catalysts for Treating NO_x in Simulated Diesel Exhaust**
C. H. Kim et al.
An inexpensive catalyst shows promise for mitigating pollutants from diesel exhaust without the use of precious metals.
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- 1627 **Heme-Like Coordination Chemistry Within Nanoporous Molecular Crystals**
C. G. Bezzu et al.
Metal-organic framework compounds expose iron atoms for reactions in a manner analogous to heme sites in proteins.
- 1631 **Efficient Annealing of Radiation Damage Near Grain Boundaries via Interstitial Emission**
X.-M. Bai et al.
Simulations show that grain boundaries store and annihilate radiation-induced defects in copper.
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- 1634 **Nonepitaxial Growth of Hybrid Core-Shell Nanostructures with Large Lattice Mismatches**
J. Zhang et al.
Chemical transformations create nanoparticles with large lattice mismatches between their metal cores and semiconductor shells.
- 1638 **Shaping Development of Autophagy Inhibitors with the Structure of the Lipid Kinase Vps34**
S. Miller et al.
Structural data might provide a foundation to develop specific inhibitors to this class of phosphoinositide 3-kinases.
- 1642 **Evolutionary Trade-Offs in Plants Mediate the Strength of Trophic Cascades**
K. A. Mooney et al.
The effect of herbivore predators on plant biomass depends on a trade-off between plant growth and resistance to herbivores.
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- 1644 **A Peroxidase/Dual Oxidase System Modulates Midgut Epithelial Immunity in *Anopheles gambiae***
S. Kamar et al.
Bonding between cell-surface proteins forms a physical barrier in mosquito guts to prevent microbe invasion.
- 1648 **A Self-Incompatibility System Explains High Male Frequencies in an Androdioecious Plant**
P. Saumitou-Laprade et al.
Male flowers persist in the olive family because males can fertilize hermaphrodites belonging to two self-incompatible groups.
- 1650 **The Wnt/ β -Catenin Pathway Is Required for the Development of Leukemia Stem Cells in AML**
Y. Wang et al.
The self-renewing cells that drive the growth of leukemia arise, in part, through activation of a well-known cell signaling pathway.
- 1653 **β_2 -Adrenergic Receptor Redistribution in Heart Failure Changes cAMP Compartmentation**
V. O. Nikolaev et al.
A change in the distribution of a signaling molecule on the surface of heart muscle cells may contribute to heart failure.
>> *Perspective p. 1586*
- 1657 **Loss of Rap1 Induces Telomere Recombination in the Absence of NHEJ or a DNA Damage Signal**
A. Sfeir et al.
The mammalian telomere protein Rap1 prevents the ends of chromosomes from undergoing unscheduled homologous recombination.

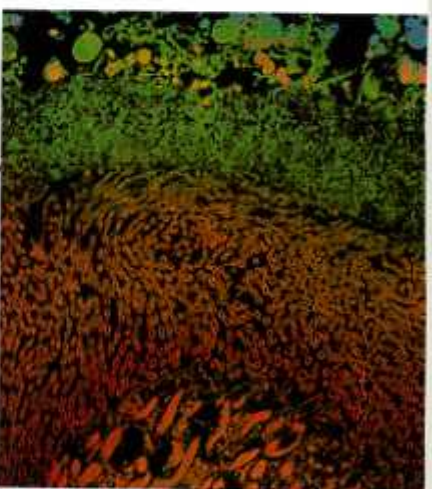
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