Artist’s rendering of the airway epithelial cell surface in human lungs. The airway surface is lined by arrays of cylindrical cilia (shown as yellow projections) that are 7 micrometers long and 200 nanometers in diameter. The cilia and airway surface are covered by tethered biomacromolecules (shown as green hairs) that form dense, brushlike structures. These epithelial brushes protect the airways from infectious agents and ensure efficient flow of mucus from healthy lungs. See page 937. For the story behind the cover, go to http://scim.ag/cov6097.

Image: Yan Liang (www.l2xy2.com), Li-Heng Cai, Michael Rubinstein
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927 Luminous Supernovae
A. Gal-Yam

932 Gamma-Ray Bursts
N. Gehrels and P. Mészáros

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937 A Periciliary Brush Promotes the Lung Health by Separating the Mucus Layer from Airway Epithelia
B. Button et al.
The lung is protected by a brushlike biopolymer that contributes to mucus flow and can trigger muco-obstructive diseases.

937 Assembly of an Evolutionarily New Pathway for α-Pyrene Biosynthesis in Arabidopsis
J.‐K. Weng et al.
A neofunctionalized copy of a plant P450 enzyme allows synthesis of pyrene-bearing secondary metabolites, called arabidopyrones.

942 PTF 11kx: A Type Ia Supernova with a Symbiotic Nova Progenitor
B. Dilday et al.
Spectroscopic data imply that a stellar explosion arose from a binary consisting of a white dwarf and a red giant star.

943 A 200-Second Quasi-Periodicity After the Tidal Disruption of a Star by a Dormant Black Hole
R. C. Reis et al.
Oscillations in x-ray emission from a galaxy’s central black hole imply that a disc formed after the hole captured a star.

951 Design of Stable Nanocrystalline Alloys
T. Chookajorn et al.
Designed nanostructured alloys, amenable to large-scale production, show high-temperature thermal stability.

954 Stepwise Evolution of Spherical Seeds into 20-Fold Twinned Icosahedra
M. R. Langille et al.
The growth of silver nanoparticles from plasmonic gold nanocrystals was tracked by electron microscopy.

957 Mapping the Origins and Expansion of the Indo-European Language Family
R. Bouckaert et al.
Spatial models of language lineage evolution support an Anatolian homeland for Indo-European languages.

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B. Dilday et al.
Spectroscopic data imply that a stellar explosion arose from a binary consisting of a white dwarf and a red giant star.

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E. Lee et al.
Whole-genome sequencing provides evidence for somatic insertions in colorectal, prostate, and ovarian cancers.

964 cis-Acting Transcriptional Repression Establishes a Sharp Boundary in Chordate Embryos
K. S. Inai et al.
The conserved tandem arrangement of Pinhead and Admp genes is important for their mutually exclusive expression.

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T. Chookajorn et al.
Designed nanostructured alloys, amenable to large-scale production, show high-temperature thermal stability.

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W. Yuan et al.
The density and compaction state of chromatin directly regulates the activity of a transcription repressor protein complex.

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An RNA-binding protein whose cyclic accumulation is regulated by body temperature confers robustness to circadian oscillators.

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Cell adhesion provides a mechanical scaffold for cell cortex tension to drive cell sorting during zebrafish gastrulation.

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A myosin thick filament–associated sarcomeric protein modulates cardiac contractility in a phosphorylation-dependent manner.


Hydrogenation of a crystalline precursor enables structural characterization of a commonly evoked reaction intermediate.

RESEARCH ARTICLE: Niacin Lipid Efficacy Is Independent of Both the Niacin Receptor

B. Lauring et al.

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Gain of a protease in microgria results in neuroinflammation that contributes to neurodegeneration and Parkinson’s disease.

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Locking BCL9/b-catenin interaction with a stapled peptide inhibits Wnt-dependent transcription and suppresses growth and metastasis in colon cancer with multiple myeloma.