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## ON THE COVER



Chemists have long sought to understand the atomic-scale motion and energy dissipation pathways associated with covalent bond formation. When a hydrogen atom (white) collides with graphene (black), a transient carbon-hydrogen bond may form. As a result of rehybridization, repulsion of neighboring carbon atoms leads to rapid energy transfer through sonic waves (white rings), which stabilize the bond. See pages 331 and 379.

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