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Schematic of the unimolecular dissociation of ketene (CH₂=O), in which stepwise increases of the dissociation rate are seen as the total energy increases through transition-state vibrational thresholds (white lines). Highly vibrationally excited ketene moves to the transition state of the reaction by localizing energy in the C–C bond (blue). Once at the transition state at the peak of the potential energy surface (yellow), CH₂ and CO repel each other, converting potential energy into translational and rotational energy of the fragments. See page 1541 and the Perspective on page 1523. [Illustration: Tim Robinson, University of California, Berkeley]