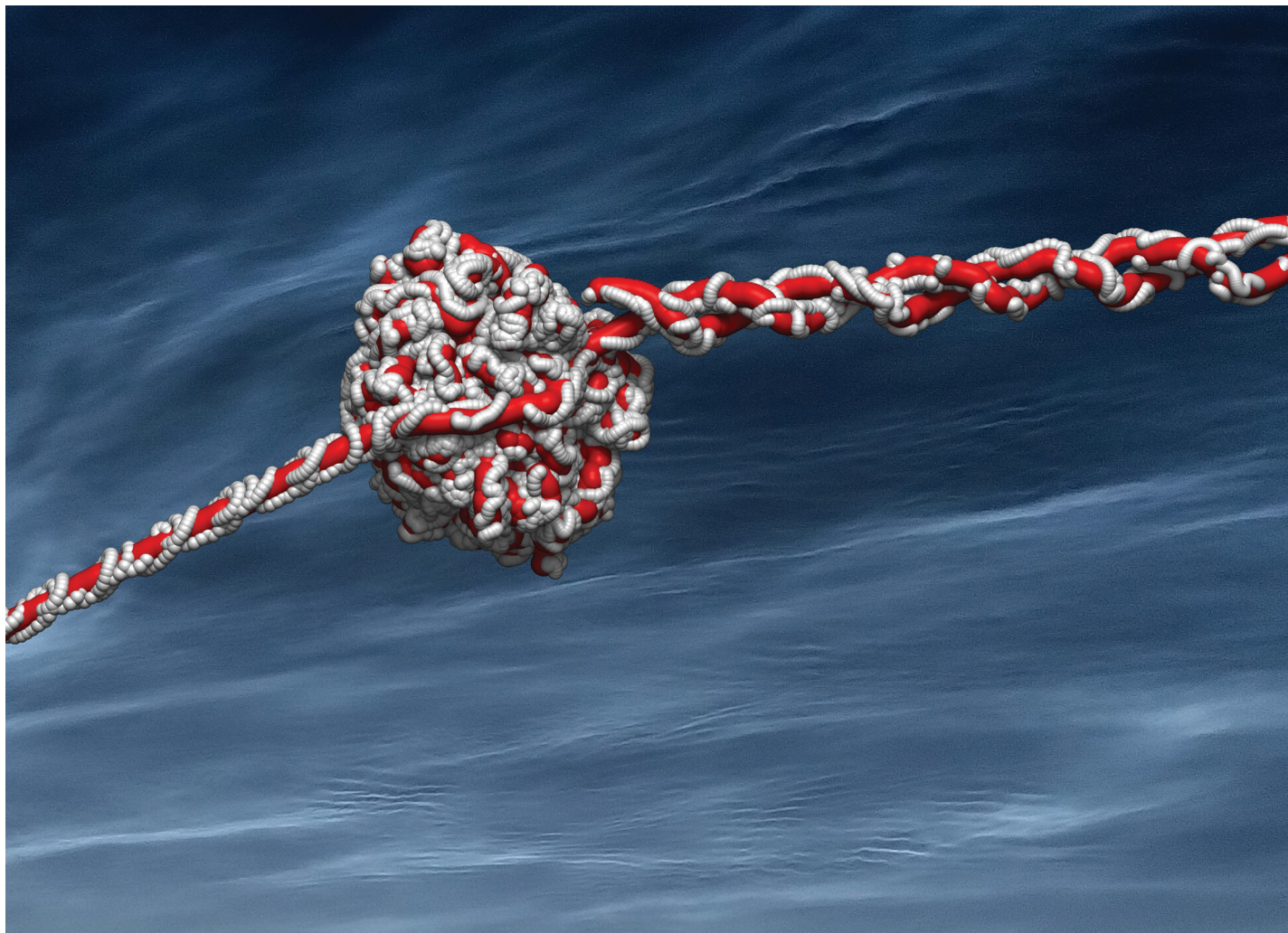




Showcasing research from Professor Jiří Kolafa's group,
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Molecular dynamics of evaporative cooling of water clusters

The expansion of water vapor into a vacuum forms clusters that, after freezing, may serve as proxies for atmospheric ice particles, like those in noctilucent clouds (shown in the figure background). Using molecular dynamics simulations, we studied cluster cooling and found that classical evaporation theories underestimate cooling rates. We also examined the rotational and translational temperature distributions, revealing significant deviations from ideal equipartition. The figure highlights two evaporative events: the ejection of a single molecule and the rare evaporation of a dimer.

As featured in:



See Jiří Kolafa *et al.*,
Phys. Chem. Chem. Phys.,
2025, 27, 2939.