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Title: Path integral single sweep method for quantum free energy reconstruction

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The path integral formulation of quantum statistical mechanics is employed to extend the single sweep method [Maragliano et al. J. Chem. Phys. 2008, 128, 1841110] for reconstructing classical free energy landscapes to the case of quantum systems of distinguishable particles. The generalized single sweep is then used to compute the free energy barrier in an interesting benchmark reaction, the intramolecular proton transfer in malonaldehyde, and show that it correctly captures the tunneling effect present in this system even at room temperature.