

Supporting Information

ReacNetGenerator: An Automatic Reaction Network Generator for Reactive Molecular Dynamic Simulations

Jinze Zeng^{1†}, Liqun Cao^{1†}, Chih-Hao Chin^{1,2*}, Haisheng Ren^{3*}, John Z.H. Zhang^{1,2,4} and Tong Zhu^{1,2*}

¹Shanghai Engineering Research Center of Molecular Therapeutics & New Drug Development, School of Chemistry and Molecular Engineering, East China Normal University, Shanghai, 200062, China

²NYU-ECNU Center for Computational Chemistry at NYU Shanghai, Shanghai, 200062, China

³School of Chemical Engineering, Sichuan University, Chengdu 610065, China

⁴Department of Chemistry, New York University, New York 10003, United States

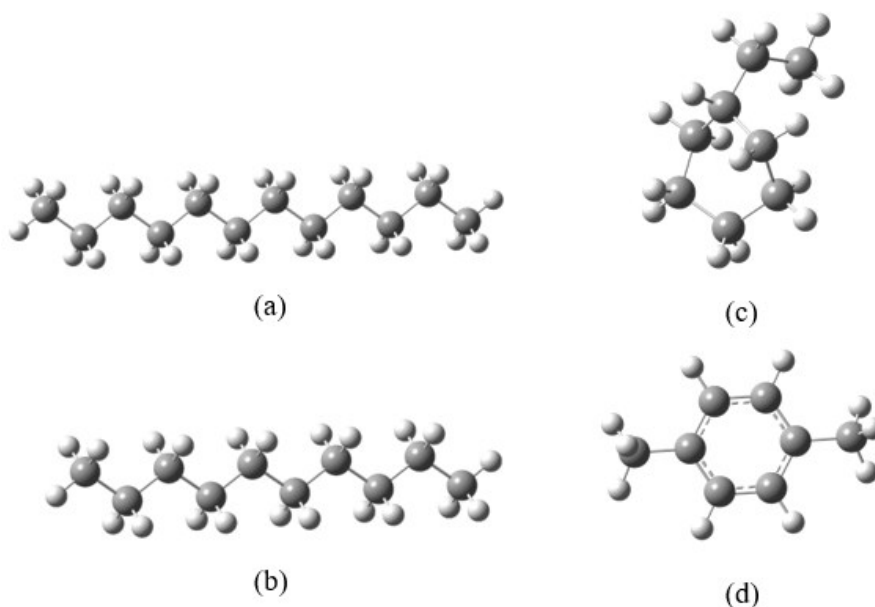


Figure S1. The 4-component RP-3 contains (a), 42% *n*-dodecane ($n\text{-C}_{12}\text{H}_{26}$), (b), 40% *n*-decane ($n\text{-C}_{10}\text{H}_{22}$), (c), 13% ethylcyclohexane (C_8H_{16}), and (d), 5 % *p*-xylene (C_8H_{10}).

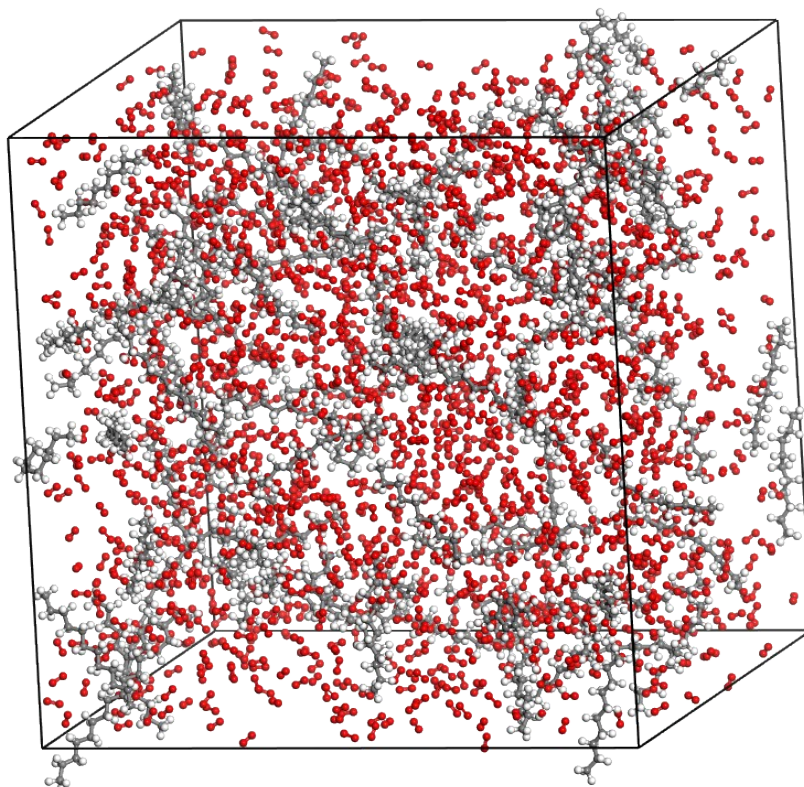


Figure S2. Starting configuration of RP-3 combustion system (6490 atoms). The gray balls represent C, white represent H, and red represent O, respectively.

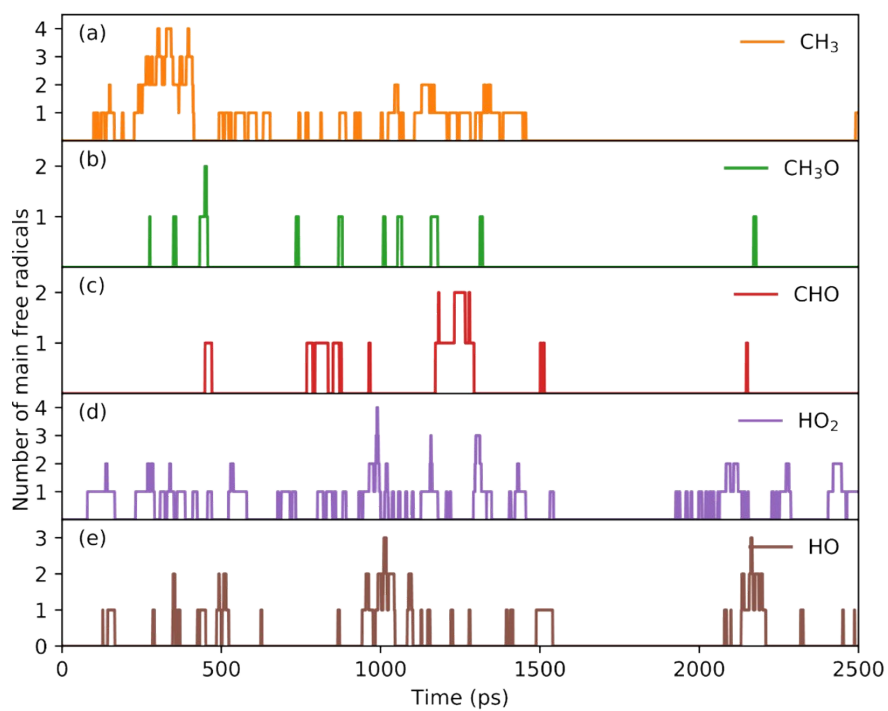


Figure S3. The number of important intermediates evolved with simulation time.

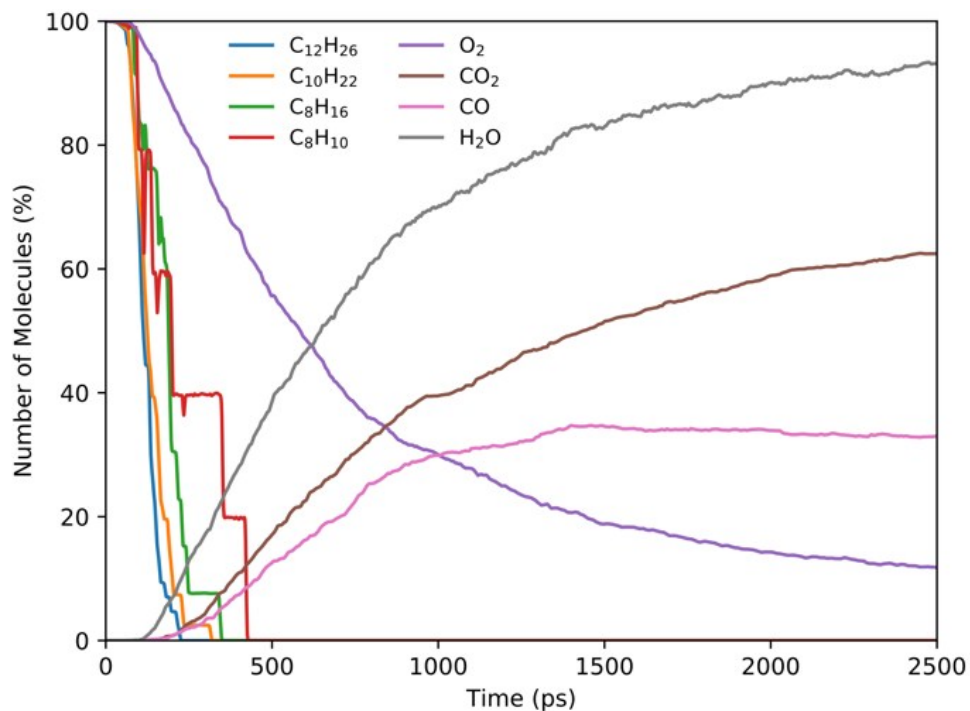


Figure S4. The distribution of reactants and products during the MD simulation.

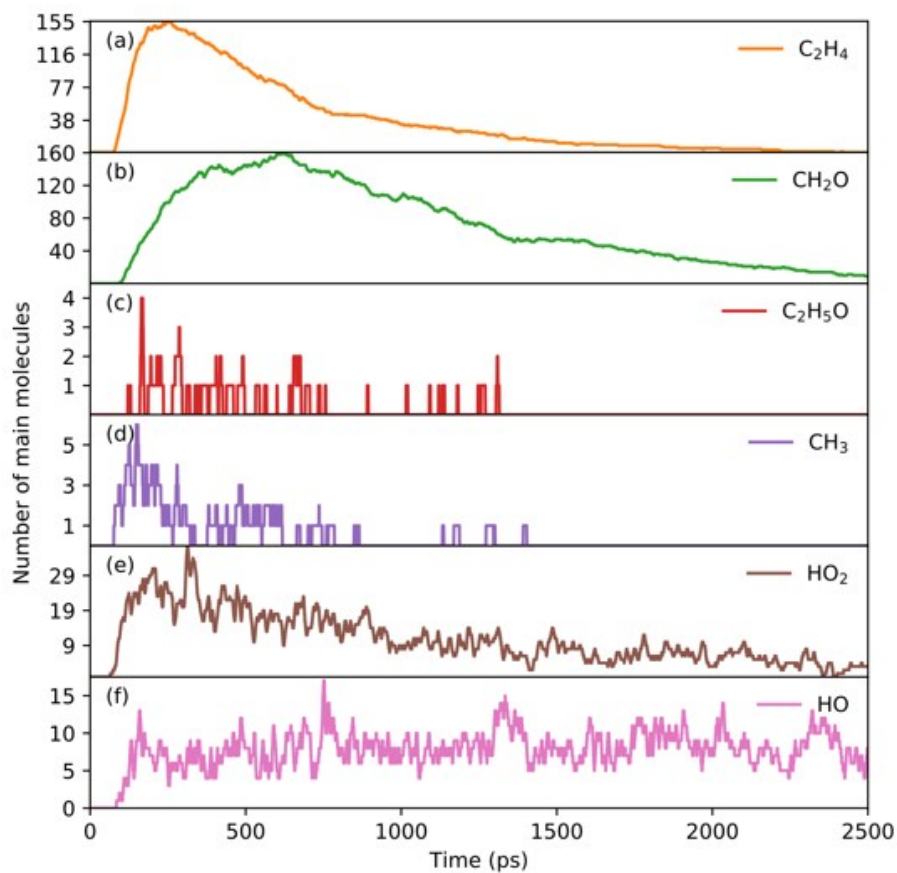


Figure S5. Distributions of important intermediates and radicals during the MD simulation.