

Description of Additional supplementary files

Supplementary Data 1 - The atomic coordinates of the optimized computational models.

Supplementary Data 2 - Initial molecular dynamics trajectory of Sustainion XC37 T.

Supplementary Data 3 - Final molecular dynamics trajectory of Sustainion XC37 T.

Supplementary Data 4 - Initial molecular dynamics trajectory of Piperion A40.

Supplementary Data 5 - Final molecular dynamics trajectory of Piperion A40.

Supplementary Data 6 - Initial molecular dynamics trajectory of Pention 7215- 30.

Supplementary Data 7 - Final molecular dynamics trajectory of Pention 7215- 30.

Supplementary Data 8 - Initial molecular dynamics trajectory of AMI-7001.

Supplementary Data 9 - Final molecular dynamics trajectory of AMI-7001.

Supplementary Movie 1 - The assembly of PSE stack reactor

Supplementary Movie 2 - The operation of PSE stack reactor