

Description of Additional Supplementary Files

Supplementary Data 1. The source files of molecular dynamics of PVPL electrolyte without electric field (initial configurations).

Supplementary Data 2. The source files of molecular dynamics of PVPL electrolyte without electric field (final configurations).

Supplementary Data 3. The source files of molecular dynamics of PVPL electrolyte with electric field (initial configurations).

Supplementary Data 4. The source files of molecular dynamics of PVPL electrolyte with electric field (final configurations).

Supplementary Data 5. The source files of molecular dynamics of PLPA electrolyte without electric field (initial configurations).

Supplementary Data 6. The source files of molecular dynamics of PLPA electrolyte without electric field (final configurations).

Supplementary Data 7. The source files of molecular dynamics of PLPA electrolyte with electric field (initial configurations).

Supplementary Data 8. The source files of molecular dynamics of PLPA electrolyte with electric field (final configurations).

Supplementary Data 9. The source files of ab initio molecular dynamics of FSI⁻ in PVPL electrolyte and Li negative electrode.

Supplementary Data 10. The source files of ab initio molecular dynamics of FSI⁻ in PLPA electrolyte and Li negative electrode.