Supplementary Information for:

Time-dependent wave packet dynamics study of the resonances in the

\[ H + \text{LiH}^+(v = 0, j = 0) \rightarrow \text{Li}^+ + \text{H}_2 \] reaction at low collision energies

Ye Mao, Bayaer Buren, Zijiang Yang, Maodu Chen*

Key Laboratory of Materials Modification by Laser, Electron, and Ion Beams (Ministry of Education), School of Physics, Dalian University of Technology, Dalian 116024, PR China

*E-mail: mdchen@dlut.edu.cn (M. Chen)
Fig. S1 Partial-wave cross sections for the $\text{H} + \text{LiH}^+ (v = 0, j = 0) \rightarrow \text{Li}^+ + \text{H}_2$ reaction calculated by the TICC method based on the MTBG-PES.
Fig. S2 Total reaction probabilities as a function of collision energy on the H + LiH⁺ (ν = 0, j = 0) → Li⁺ + H₂ reaction for J = 0 - 5 partial waves.
Fig. S3 Product vibrational state-resolved reaction probabilities as a function of collision energy on the H + LiH\(^+\) (\(v = 0, j = 0\)) → Li\(^+\) + H\(_2\) reaction for \(J = 3\). The partial wave of \(J = 3\) is selected because of its larger contribution.
Fig. S4 Total and product vibrational state-resolved rate coefficients of the $\text{H} + \text{LiH}^+ (v = 0, j = 0) \rightarrow \text{Li}^+ + \text{H}_2$ reaction as a function of temperature.