Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supplementary Information for "Crystal-liquid duality enhanced dynamical stability of hybrid perovskites"

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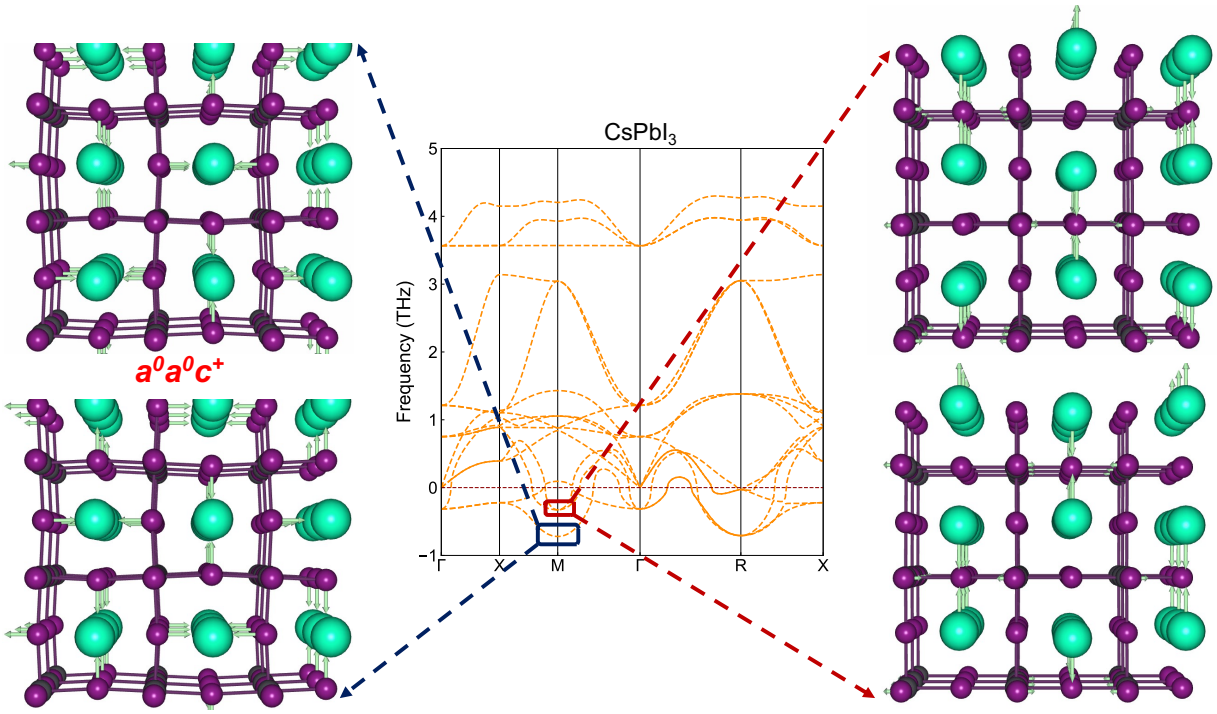

Fig. S1 Eigenmodes associated with imaginary frequency of $CsPbI_3$ at high-symmetry point M. Green arrows represent the direction of movement of atoms.

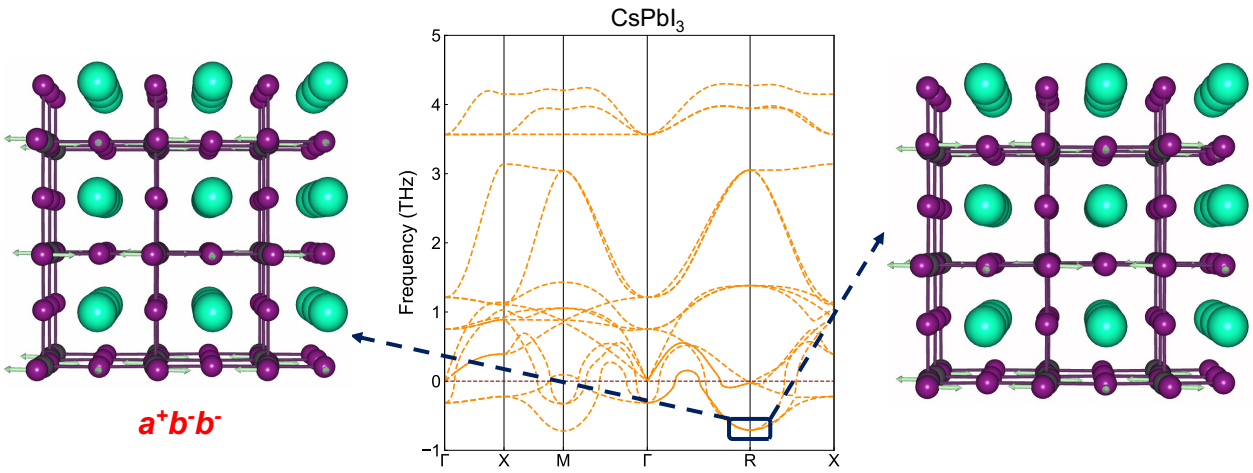

Fig. S2 Eigenmodes associated with imaginary frequency of $CsPbI_3$ at high-symmetry point R. Green arrows represent the direction of movement of atoms.

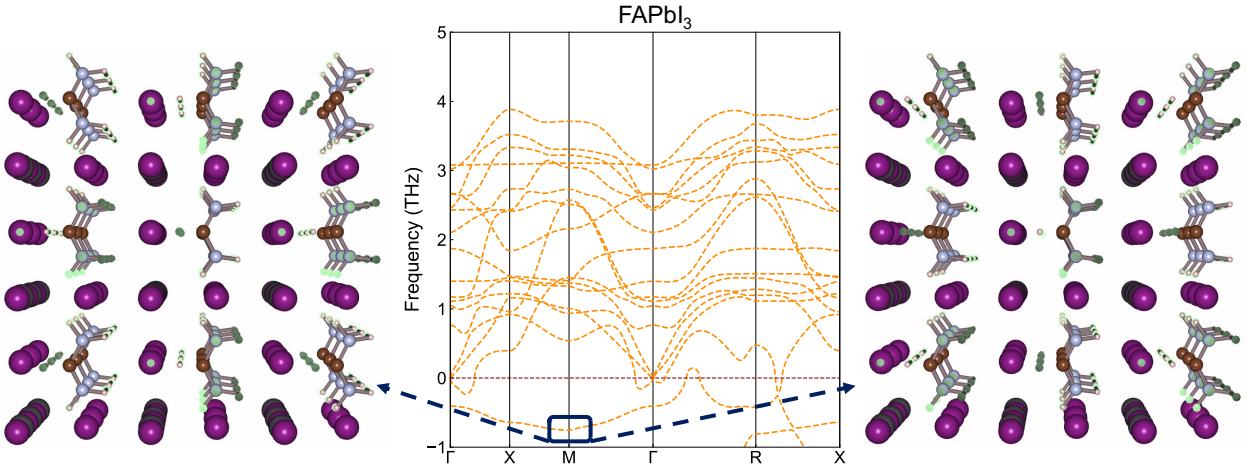

Fig. S3 Eigenmodes associated with imaginary frequency of $FAPbI_3$ at high-symmetry point M. Green arrows represent the direction of movement of atoms.

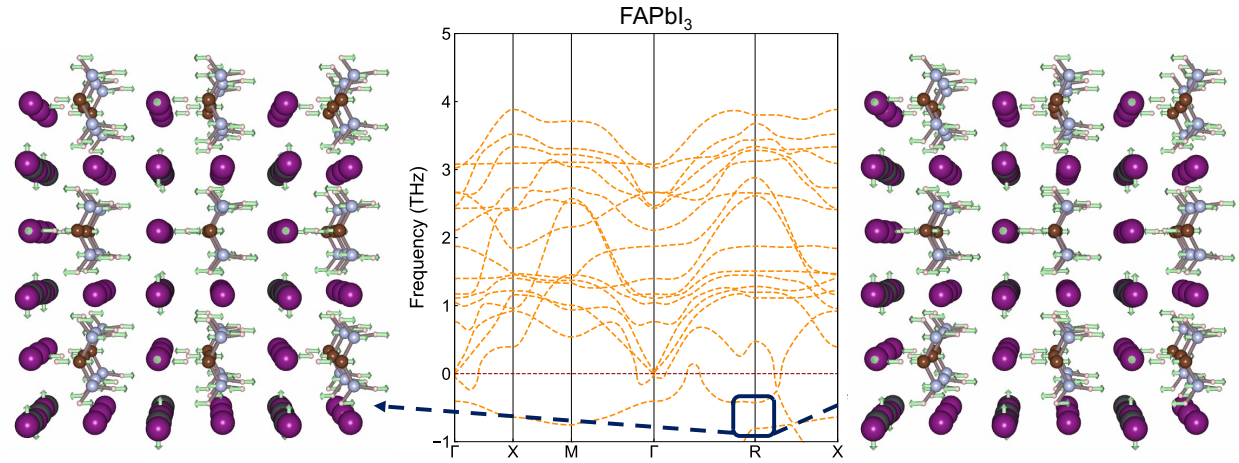

Fig. S4 Eigenmodes associated with imaginary frequency of $FAPbI_3$ at high-symmetry point R. Green arrows represent the direction of movement of atoms.

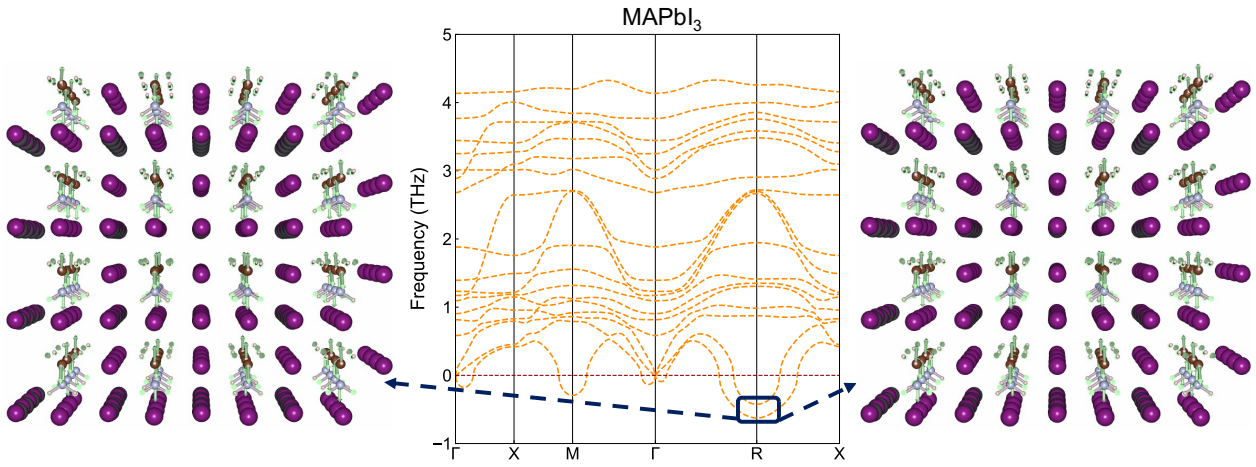

Fig. S5 Eigenmodes associated with imaginary frequency of $MAPbI_3$ at high-symmetry point R. Green arrows represent the direction of movement of atoms.

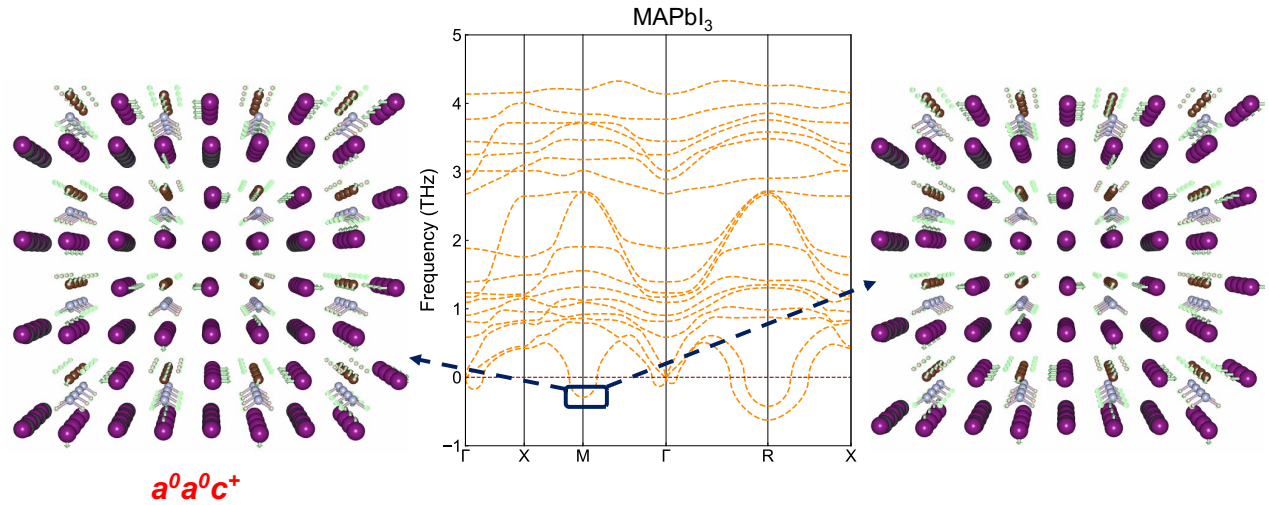

Fig. S6 Eigenmodes associated with imaginary frequency of $MAPbI_3$ at high-symmetry point M. Green arrows represent the direction of movement of atoms.