

Supplementary Information :
Formation of the DY center as n-type limiting defect in Bi-Doped Hybrid Halide Perovskites

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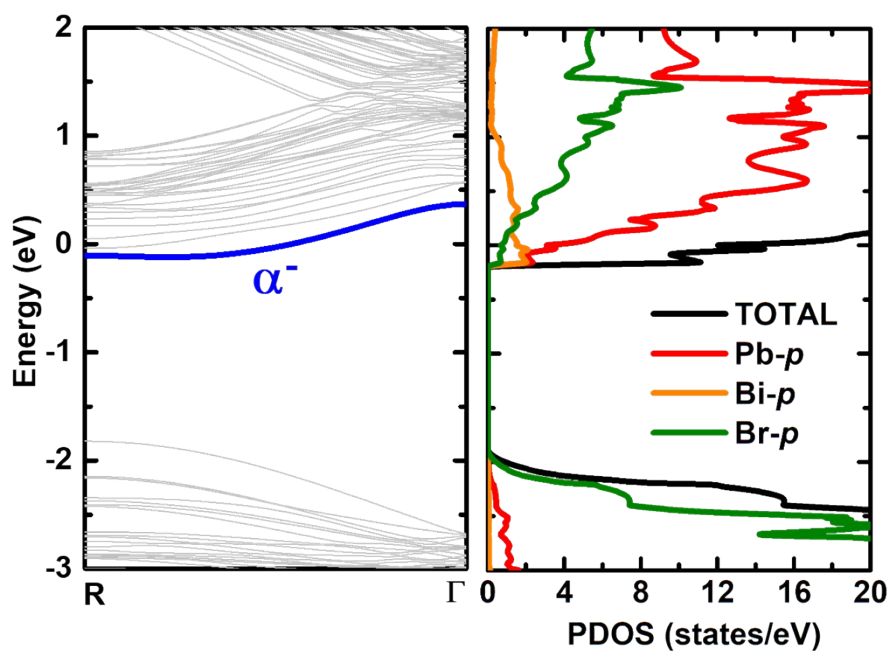


Figure S1. The band structure and partial density of states (PDOS) of the α^- state in the Bi-doped MAPbBr₃.

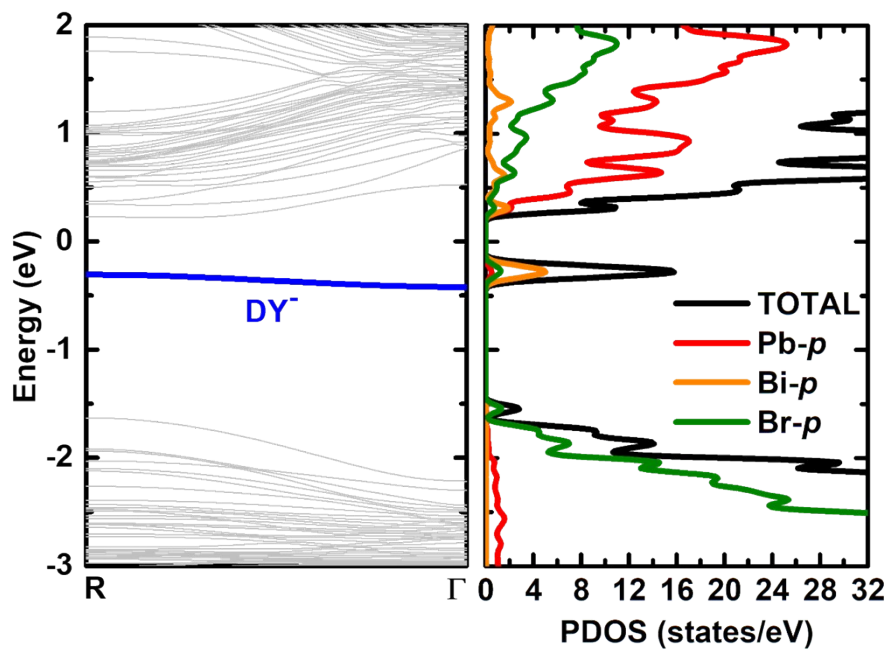


Figure S2. The band structure and partial density of states (PDOS) of the DY^- state in the Bi-doped MAPbBr₃.

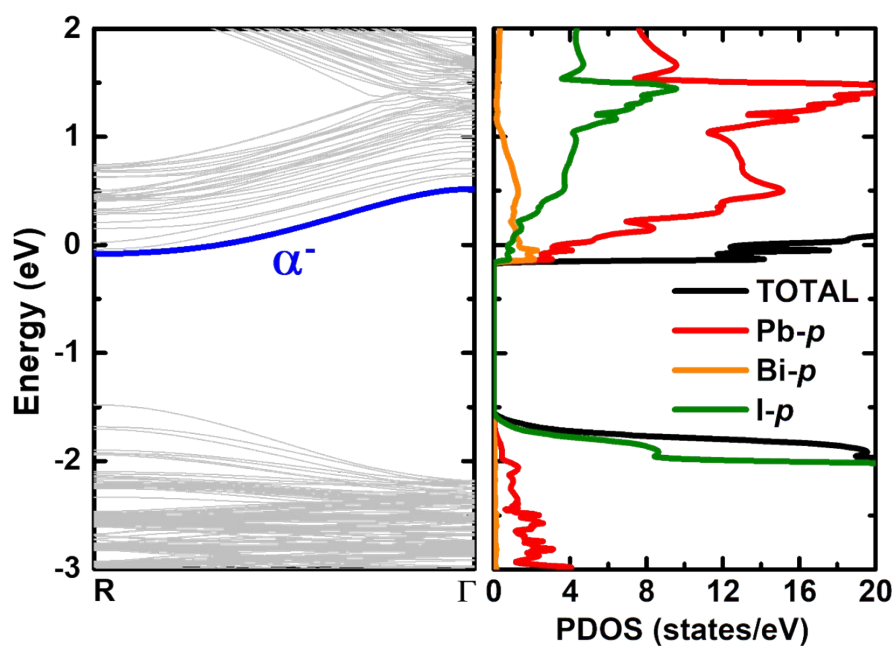


Figure S3. The band structure and partial density of states (PDOS) of the α^- state in the Bi-doped MAPbI₃.

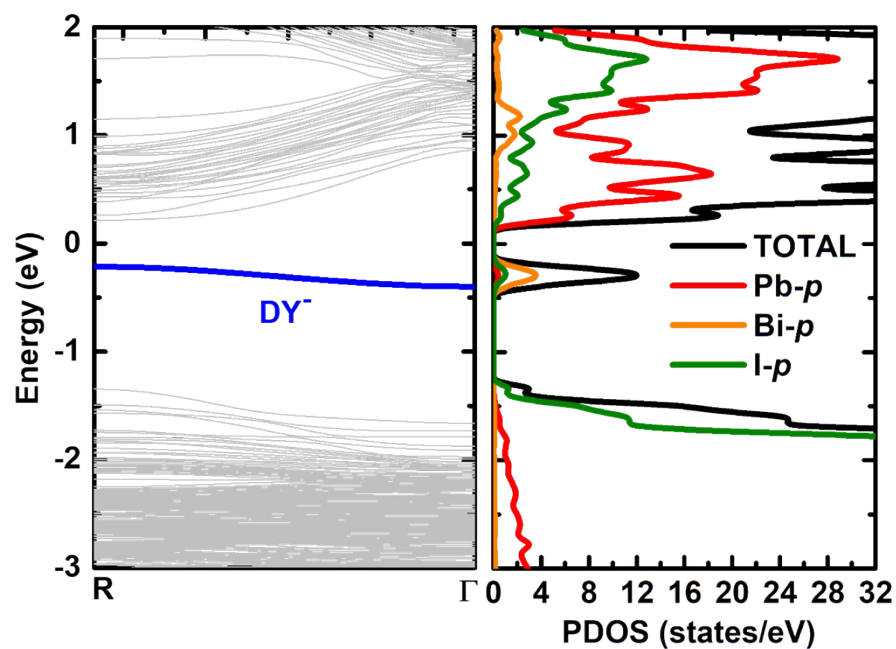


Figure S4. The band structure and partial density of states (PDOS) of the DY^- state in the Bi-doped MAPbI₃.