

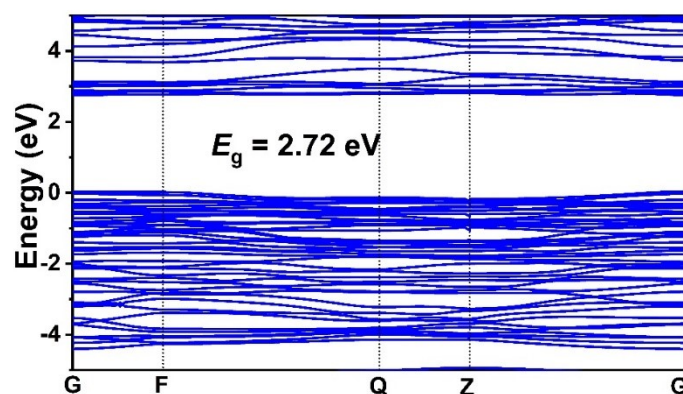
# Cationic Substitution Engineering Induced New Quaternary Chalcogenide in A–M<sup>III</sup>A–M<sup>IV</sup>A–Q System Used for Optical Crystal

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**Fig. S1** Electronic band structure of PBE calculation