Electronic Supplementary Material (ESI) for RSC Advances.

Searching for d^0 spintronic materials: Bismuthene monolayer doped with IVA-group atoms

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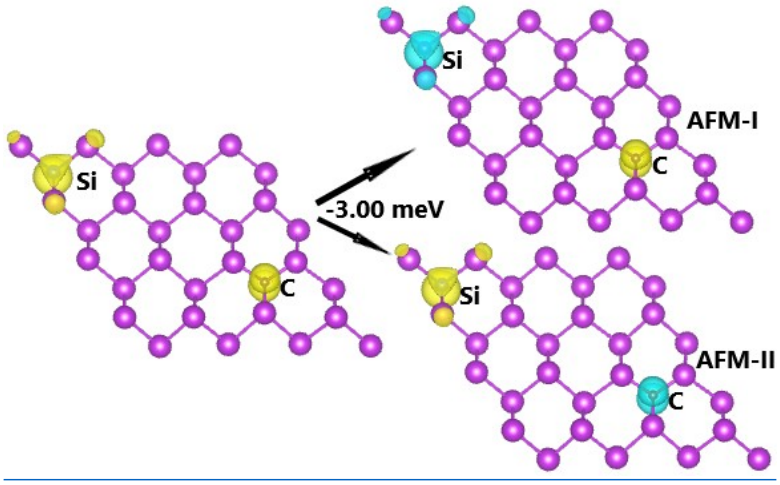

Figure S1: Spin ordering in the bismuthene monolayer co-doped with C and Si(Spin-up: yellow surface; Spin-down: cyan surface; Iso-surface value: 0.002).

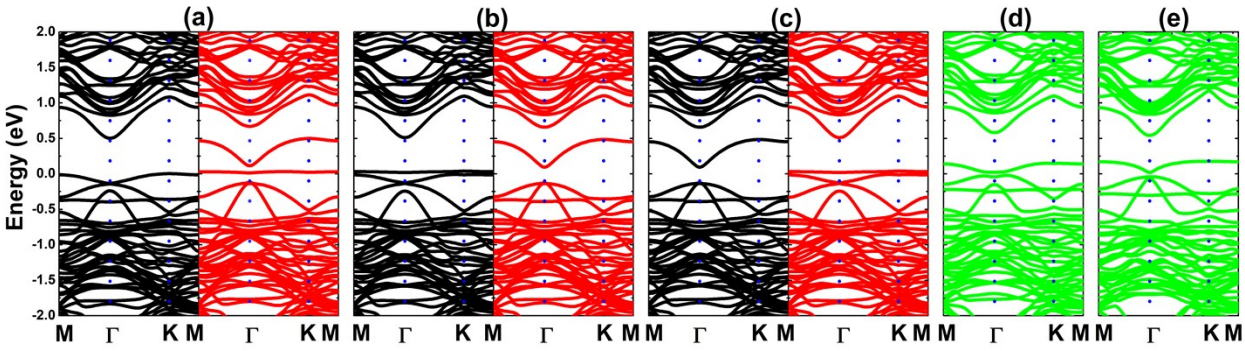

Figure.S2: Electronic band structure (Spin-up: black curve; Spin-down: red curve; Non spin-polarized: green curve; The Fermi level is set to 0 eV) of the bismuthene monolayer co-doped with (a-b-c) C and Si (a: FM, b: AFM-I, c: AFM-II), (d) C and Ge, and (e) Si and Ge

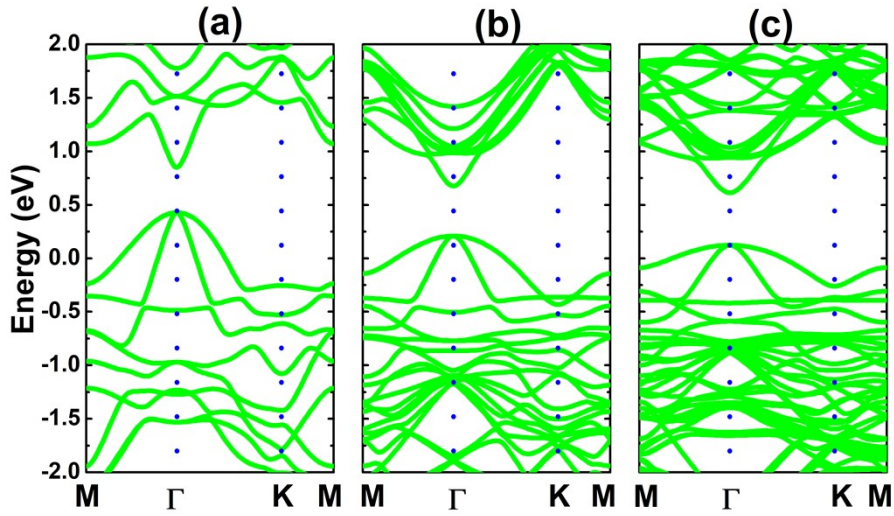

Figure 3. Electronic band structure (Non spin-polarized: green curve; The Fermi level is set to 0 eV) of the Sn-doped bismuthene monolayer with doping level of (a) 25%, (b) 11.11%, and (c) 6.25%.

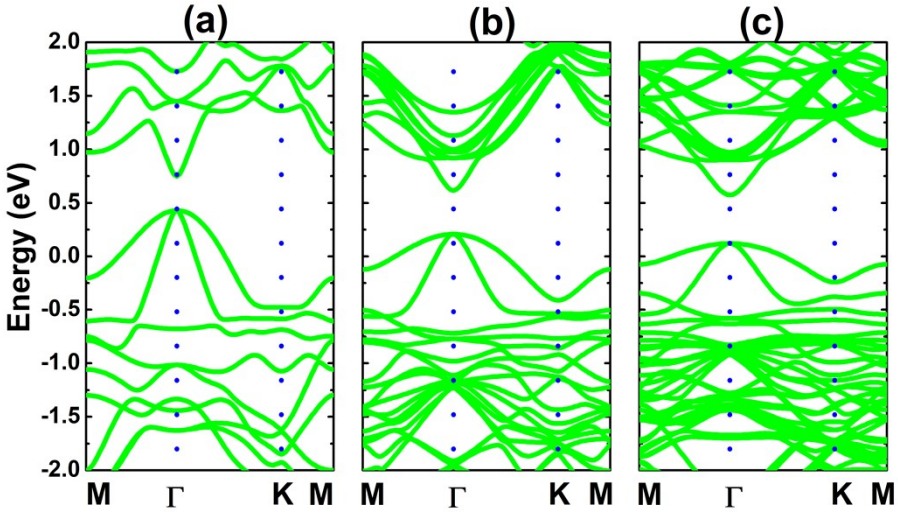

Figure 4. Electronic band structure (Non spin-polarized: green curve; The Fermi level is set to 0 eV) of the Pb-doped bismuthene monolayer with doping level of (a) 25%, (b) 11.11%, and (c) 6.25%.