Supplementary Information

Sliding Ferroelectricity in Two-Dimensional MoA_2N_4 (A=Si or Ge) Bilayers: High Polarizations and Moire Potentials

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	m^* (m_0)	E_l (eV)	C_{2D} ($J \cdot m^{-2}$)	U ($10^3\ cm^2 \cdot V^{-1} \cdot s^{-1}$)
e	0.59	-2.30	1034	7.99
h	0.64	-10.60	1034	0.32

Table S1. The carrier mobility of 2D materials could be characterized based on the deformation potential theory (J Am Chem Soc 2014, **136**, 6269):

$$\mu_{2D} = \frac{2e\hbar^3 C}{3k_B T |m^*|^2 E_1^2}$$

where the behavior of carrier mobility are mainly determined by three parameters: elastic modulus, effective mass of carrier and deformation potential, respectively denoted as C_{2D}, m^* and E_1. The results for T=300K are listed in Table S1.

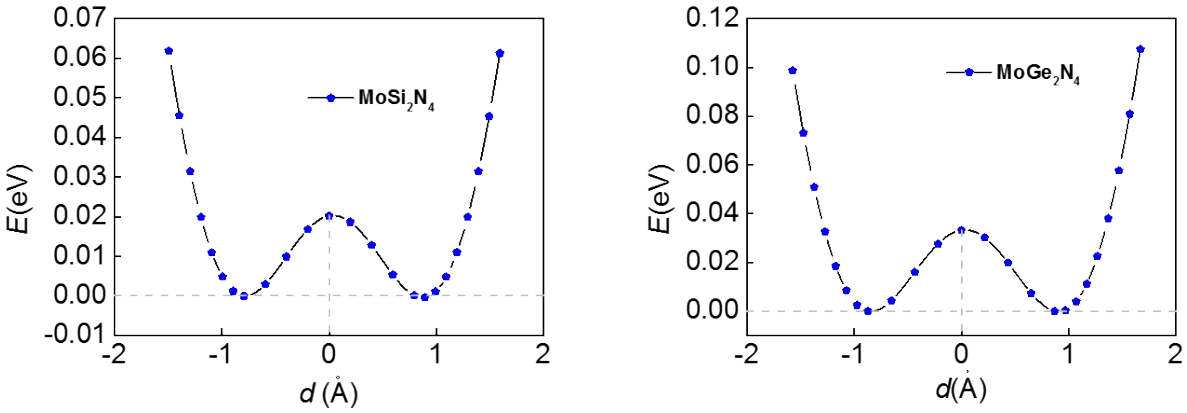

Figure S1. Dependence of energy on interlayer displacement *d* along -x direction for bilayer $MoSi_2N_4$ and $MoGe_2N_4$.