

Electronic Supplementary Material (ESI) for RSC Advanced Materials

## Supporting Information

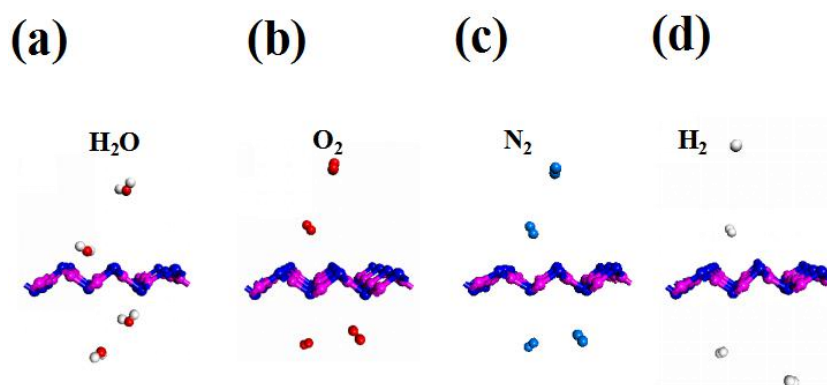


Fig. S1 *Ab initio* MD snapshots of the V-AlP  $3 \times 3$  supercell structures exposed to the high pressure (a) water vapour, (b) oxygen gas, (c) nitrogen gas and (d) hydrogen gas at temperatures  $T=300\text{K}$ .