

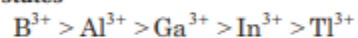
Aluminium is usually found in +3 oxidation state. In contrast, thallium exists in +1 and +3 oxidation states. This is due to

(2019 Main, 9 Jan I)

- (a) lattice effect                      (b) lanthanoid contraction  
(c) inert pair effect                  (d) diagonal relationship

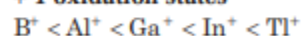
Due to inert pair effect, group-13 elements ( $ns^2np^1$ ) show +3 and +1 oxidation states in their compounds. Stability order of these oxidation states will be as,

**+ 3 oxidation states**



$B^{3+}$  does not exist in free states. All B(III) compounds are covalent.

**+ 1 oxidation states**



$B^+$  does not exist in ionic as well covalent compounds.