Most Important Orders In Chemistry

1. Melting Point

$Li > Na > K > Rb > Cs$

2. Colour of the flame

Li - Red , Na - Golden, K - violet ,
Rb - Red , Cs - Blue , Ca - Brick Red,
Sr - Blood Red, Ba - Apple green

3. Stability of hydrides

$LiH > NaH > KH > RbH > CsH$

4. Basic Nature of hydroxides

$LiOH < NaOH < KOH < RbOH < CsOH$

5. Hydration Energy

$Li > Na > K > Rb > Cs$

6. Reducing character

$Li > Cs > Rb > K > Na$

7. Stability of +3 Oxidation state

$B > Al > Ga > In > Tl$

8. Stability of +1 Oxidation state

$Ga < In < Tl$

9. Basic Nature of Oxides and hydroxides

$B < Al < Ga < In < Tl$

10. Relative strength of Lewis Acid

$BF_3 < BCl_3 < BBr_3 < BI_3$

11. Ionisation Energy

$B > Al < Ga > In < Tl$

12. Reactivity

$C < Si < Ge < Sn < Pb$

13. Metallic Character

$C < Si < Ge < Sn < Pb$

14. Acidic Character of the Oxides

$CO_2 > SiO_2 > GeO_2 > SnO_2 > PbO_2$

15. Reducing nature of hydrides

$CH_4 < SiH_4 < GeH_4 < SnH_4 < PbH_4$

16. Thermal stability of tetrahalides

$CCl_4 > SiCl_4 > GeCl_4 > SnCl_4 > PbCl_4$

17. Oxidising character of MCl_4 Species

$GeCl_4 < SnCl_4 < PbCl_4$

18. Ease of hydrolysis of tetrahalides

$SiCl_4 < GeCl_4 < SnCl_4 < PbCl_4$

19. Acidic strength of trioxides

$N_2O_3 > P_2O_3 > As_2O_3$

20. Acidic strength of pentoxides

$N_2O_5 > P_2O_5 > As_2O_5 > Sb_2O_5 > Bi_2O_5$

21. Acidic strength of oxides of Nitrogen

$N_2O < NO < N_2O_3 < N_2O_4 < N_2O_5$

22. Basic nature / bond angle / thermal stability and dipole moment of hydrides

$NH_3 > PH_3 > AsH_3 > SbH_3 > BiH_3$

23. Stability of trihalides of Nitrogen

$NF_3 < NCl_3 < NBr_3$

24. Lewis base strength

$NF_3 < NCl_3 < NBr_3 < NI_3$

25. Ease of hydrolysis of trichlorides

$NCl_3 > PCl_3 > AsCl_3 > SbCl_3 > BiCl_3$

26. Lewis acid strength of trihalides of P, As and Sb

$PCl_3 > AsCl_3 > SbCl_3$

27. Lewis acid strength among phosphorus trihalides

$PF_3 > PCl_3 > PBr_3 > PI_3$

28. Melting and Boiling point of hydrides

$H_2O > H_2Te > H_2Se > H_2S$

29. Volatility of hydrides

$H_2O < H_2Te < H_2Se < H_2S$

30. Reducing nature of hydrides

$H_2S < H_2Se < H_2Te$

31. Covalent character of hydrides

$H_2O < H_2S < H_2Se < H_2Te$

32. The acidic character of oxides
(elements in same oxidation state)

$SO_2 > SeO_2 > TeO_2 > PoO_2 > SO_3 > SeO_3 > TeO_3$

33. Acidic character of oxide of a particular element (e.g. S)

$SO < SO_2 < SO_3 < SO_2 > TeO_2 > SeO_2 > PoO_2$

34. Bond energy of halogens

$Cl_2 > Br_2 > F_2 > I_2$

35. Solubility of halogen in water

$F_2 > Cl_2 > Br_2 > I_2$

36. Oxidising Power

$F_2 > Cl_2 > Br_2 > I_2$

37. Enthalpy of hydration of X ion

F^-, Cl^-, Br^-, I^-

38. Reactivity of halogens

$F > Cl > Br > I$

39. Ionic character of M-X bond in halides

$M-F > M-Cl > M-Br > M-I$

40. Reducing character of X ion

$I^- > Br^- > Cl^- > F^-$

41. Acidic Strength of halogen acids

$HI > HBr > HCl > HF$

42. Reducing property of halogen halides

$HF < HCl < HBr < HI$

43. Oxidising power of oxides of chlorine

$Cl_2O > ClO_2 > Cl_2O_6 > Cl_2O_7$

44. Decreasing ionic size

$O_2^- > F^- > Na^+ > Mg^{2+}$

45. Increasing acidic property

$Na_2O_3 < MgO < ZnO < P_2O_5$

46. Increasing bond length

$N_2 < O_2 < F_2 < Cl_2$

47. Increasing size

$Ca^{2+} < Cl^- < S^{2-}$

48. Increasing acid strength

$HClO < HClO_2 < HClO_3 < HClO_4$

49. Increasing oxidation number of iodine

$HI < I_2 < ICl < HIO_4$

50. Increasing thermal stability

$HOCl < HOClO < HOClO_2 < HOCl_3$