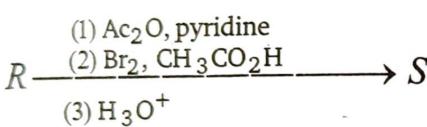
Aniline reacts with mixed acid (conc. HNO₃ and conc. H₂SO₄) at 288 K to give P (51%),Q (47%) and R (2%). The major product(s) of the following sequence is (are)



(4) NaNO₂, HCl/273-278 K

(5) EtOH, Δ

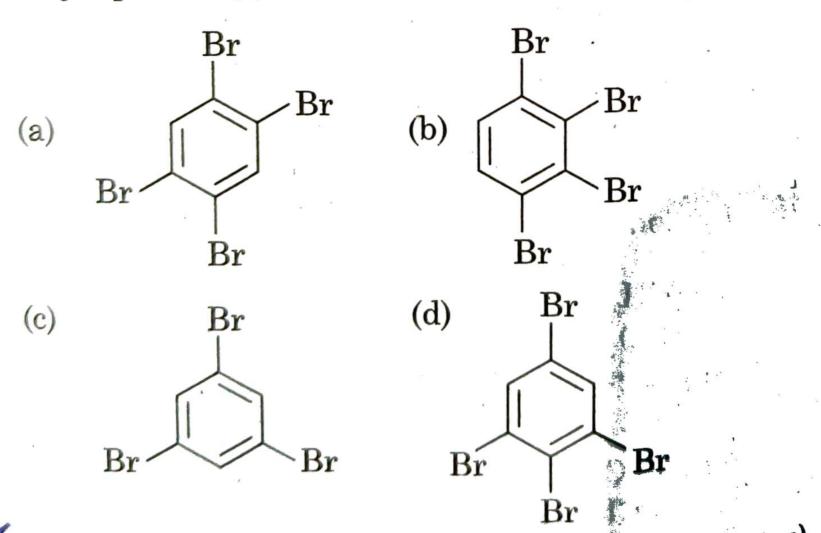
(1) Sn/HCl (2) Br₂/H₂O (excess)

(3) NaNO₂, HCl/273-278 K

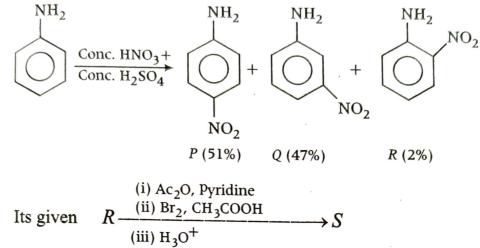
 $(4) H_3PO_2$

Major product(s)

(2018 Adv.)



 $\xrightarrow{\text{Conc. HNO}_3+} P + Q + R$ Given, Aniline Conc. H₂SO₄ (51%) Then P, Q and R will be



(iv) NaNO₂, HCl/273-278 K (v) EtOH, $\tilde{\Delta}$ NH_2 -CH₃ HN- NO_2 Ac_2O

Pyridine

(R)

-CH₃COOH N₂Cl NO_2 NO_2 NaNO₂/HCl **EtOH** 273-278K (Diazotisation) Br Br

CH₃COOH

Major product

HN-

Br

NH₂

 \mathbf{Br}

H₃O⁺

(Hydrolysis)

NO₂

 NO_2

(S)Now from S to major products its given. (i) Sn/HCl (ii) Br₂/H₂O (Excess) (iii) NaNO2, HCl/273-278K (iv) H₃PO₂

1, 3, 4, 5-tetrabromobenzene

Hence, only (d) is the correct answer.