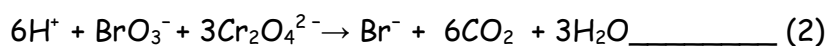
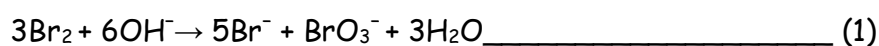


Question 10:

To a 10 ml, 1 M aqueous solution of Br₂, excess of NaOH is added so that all the Br₂ is disproportionated to Br⁻ and BrO₃⁻. The resulting solution is free from Br⁻, by extraction and excess of OH⁻ neutralised by acidifying the solution. The resulting solution is sufficient to react with 2 g of impure CaC₂O₄ (M=128 g/mol) sample. The per cent purity of oxalate sample is

Answer: (option 4) 64%



10 m-mol of Br₂ produces 10/3 m-mol BrO₃⁻

required m-moles of CaC₂O₄ = (10/3)×3=10

∴ Weight of CaC₂O₄ = 10×10⁻³×128

% purity of oxalate sample is = (10×10⁻³×128)/2 × 100 = 64%