Comparing Base Use for Two Model Acids

Scoring guide · one credit per question · review written work against each rubric

Comparing Base Use for Two Model Acids

Question 1

Choice (3)

Four mmol of Q uses eight mmol of hydroxide. The ratio is two to one.

Question 2

Both samples contain 4 mmol of molecules and the first-proton point removes one proton from each molecule. Both use 4 mmol of OH^- to reach that point, even though Q can react further.

Question 3

P uses 8 × 1 = 8 mmol of OH^-. Q also uses 4 × 2 = 8 mmol.

Question 4

The first-proton point occurs after one OH^- per acid molecule. P uses 8 mmol to reach it, and Q uses 4 mmol. Equal total base use can come from different amounts or different numbers of transferable protons per molecule.