Question	Marking Guidance	Mark	Comments
05.1	**M1** Amount NaOH = 0.02530 x 0.500 = 0.01265 mol **M2** Amount acid = 0.006325 mol (i.e. **M1**÷2) **M3** M_r = 90(.0) **M4** mass acid = 569 (mg) (allow 567 to 576) (i.e. **M2** x **M3** in mg)	1 1 1 1	567-590 = 4 marks 0.567-0.590 = 3 marks Allow ECF at each stage **M3** can be scored from use of value of 90(.0) within working **M4** should be to at least 2sf. Any individual marks for **M1/2/3** should be to at least 2sf (or 90 for **M3**) 1134-1180 = 3 marks (due to not dividing moles of NaOH by 2) 1.134-1.180 = 2 marks (due to not dividing moles of NaOH by 2 and not converting to mg)
05.2	Idea that it ensures all ethanedioic acid / acid / sodium hydroxide / alkali / reactants are in the mixture / solution / reaction or the idea that some of the ethanedioic acid / acid / sodium hydroxide / alkali / reactants would be on the sides of the flask	1	the idea that it is the transfer of all the acid/alkali alone is not enough
05.3	Titres that are within 0.1 cm^3 of each other	1	Units are needed Allow 0.05–0.15 cm^3 Do not allow idea of identical results Allow answers that refer to titres that are within the uncertainty of the burette/apparatus of each other