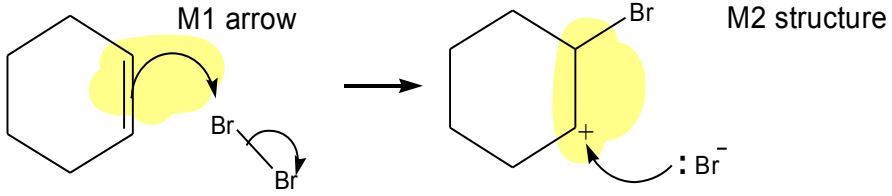
Question	Answers	Additional Comments/Guidelines	Mark
02.1	Thermometer and bung in flask with bulb level with side arm. Condenser jacket with water in at bottom and out at top.	Must be cross section diagram with no gaps at joints	1 1
02.2	Liquids are immiscible	Allow don't mix, forms two layers (stated or implied) Allow it is insoluble Ignore density or reference to solutions	1
02.3	Liquid goes clear / not cloudy	Ignore colourless	1

02.4	*Via moles* Amount cyclohexanol (= 14.4/100) = 0.144 mol	*Via mass* Amount cyclohexanol (= 14.4/100) = 0.144 mol	*Via volume* Amount cyclohexanol (= 14.4/100) = 0.144 mol	M1
	Mass cyclohexene formed = 4.15 x 0.81 = 3.36 g	Mass cyclohexene formed = 4.15 x 0.81 = 3.36 g	Mass of cyclohexene expected (= 0.144 × 82.0 = 11.808 g) OR M1 × 82	M2
	amount cyclohexene obtained (= 3.36/82.0 = 0.0410 mol) OR M2/82.0	mass of cyclohexene expected (= 0.144 × 82.0 = 11.808 g) OR = M1 × 82.0	volume of cyclohexene expected (= 11.808/0.810 = 14.577cm^3) OR M2/0.810	M3
	%Yield = $\frac{0.0410}{0.144}$ x 100 OR $\frac{M3}{M1}$ x 100	%Yield = $\frac{3.36}{11.808}$ x 100 OR $\frac{M2}{M3}$ x 100	%Yield = $\frac{4.15}{14.577}$ x 100 OR $\frac{4.15}{M3}$ x 100	M4
	= 28.5% (must be 3 sf)	= 28.5% (must be 3 sf)	= 28.5% (must be 3 sf)	M5
	Only award M5 if answer is to 3sf and follows some attempt at % yield calculation in M4			

02.5	 M3 arrow & lone pair on bromide		Lose M1 if Full charges on Br–Br OR Wrong partial charges on Br–Br OR Arrow is to Br^+ ion (formed in a preliminary step) Any C shown in the ring must have the correct number of hydrogens attached to score M2	3