

Question Number	Acceptable Answers	Reject	Mark
1(a)	London (forces) / van der Waals (forces) / temporary dipole-induced dipole (attractions) / dispersion forces / instantaneous dipole-dipole	Dipole-dipole Permanent dipole-dipole Just abbreviations, eg ID-ID, VdW	1

Question Number	Acceptable Answers	Reject	Mark
1(b)	18 /eighteen		1

Question Number	Acceptable Answers	Reject	Mark
1(c)	(Permanent) dipole-dipole attractions (also) present	Hydrogen bonds Reference to CH ₃ F having more electrons than F ₂	1

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1(d)	Hydrogen bonds (also) present (1) Which are stronger / which require more energy to break than dipole-dipole / London forces / van der Waals' forces / Or strongest intermolecular force (1)		2

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1(e)	HCl does not have hydrogen bonds (between molecules) IGNORE references to electronegativity	Just 'chlorine does not have hydrogen bonds'	US035563