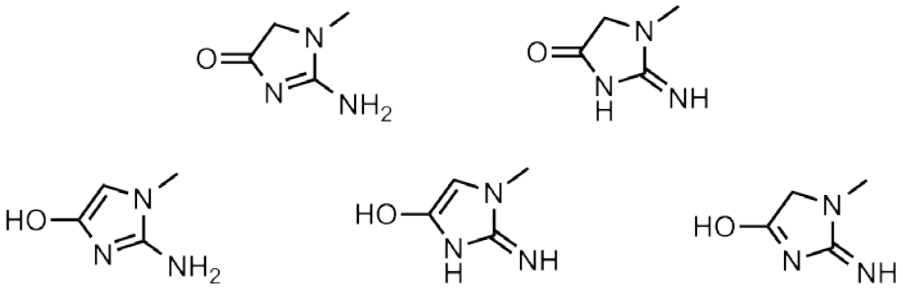
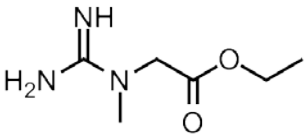
(e)		**E** and **K** [Award half a mark each. If other letters are written minus half a mark for each other letter down to zero.]	**1**
(f)		[Any one of the five alternatives below is to be awarded the mark.] *The percentage of each tautomer is solvent dependent, although the top two are by far the most important. In protic solvents, hydrogen-bonding favours the top left structure.* 	**1**
(g)		*K* = [Creatinine] / [Creatine] *K* = Integral height of signal A / Integral height of signal B *K* = 4 [This has no units. Award values between 3.5 and 5.0 the mark. There must be evidence of working/using the correct integral method to gain the mark.] *Creatinine is favoured at more acidic pHs and creatine at more alkaline pHs.*	**1**
(h)		 [The correct structure is to be awarded 3 marks. The hydrochloride salt of this molecule (protonated on any one nitrogen) should also be awarded 3 marks. Incorrect structures may score 2 marks if they obey any two of the three criteria below, and 1 mark for obeying any one of the criteria.] ■ A total of 10 C–H protons in the molecule. *This shows the student has successfully used the integrals in the spectrum to calculate the number of hydrogens.* ■ The presence of a discrete ethyl group in the molecule. *This shows the student has understood the coupling patterns in the NMR.* ■ The presence of an ester functional group in place of the carboxylic acid. *This shows the student has understood the ionisation states of the molecule at different pHs.*	**3**
		Total	**17**