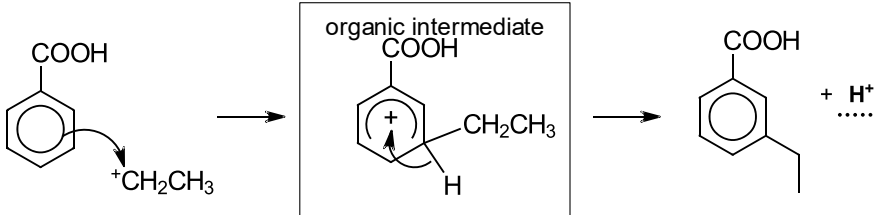


5(a)	M1 and M2: any two [1], all three [2] • (hexagonal ring) planar / (trigonal) planar • 120° • sp^2 hybridised M3: p orbitals overlap sideways / laterally (with each other above and below the ring) forming π bonds M4: σ bonds form when sp^2 / hybridised orbitals overlap end-on-end / head on
5(b)(i)	M1: (reaction 5) Pt / Ni + H₂ (+ heat) M2: (reaction 6) (CH₃)₂CHCOCl + AlCl₃ (+ heat)
5(b)(ii)	reduction / hydrogenation
5(c)(i)	(CH ₂ CH ₃ group) directs to 2-, 4- (and 6-) positions AND due to being an electron donating group
5(c)(ii)	CH ₃ CH ₂ Br + FeBr ₃ → CH ₃ CH ₂ ⁺ + FeBr ₄ ⁻
5(c)(iii)	 M1: curly arrow from inside / touching the hexagon to (CH₂) group / C⁺ charge M2: structure of the intermediate M3: curly arrow from C-H bond into / onto the ring AND formation / loss of H⁺
5(c)(iv)	H ⁺ + FeBr ₄ ⁻ → HBr + FeBr ₃