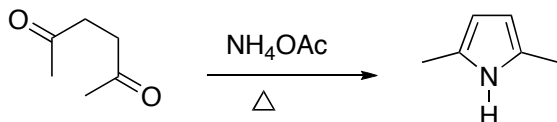
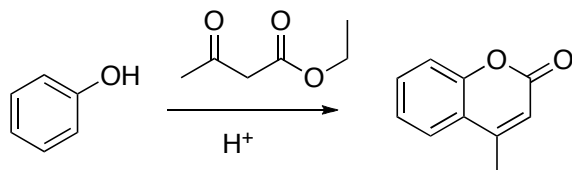


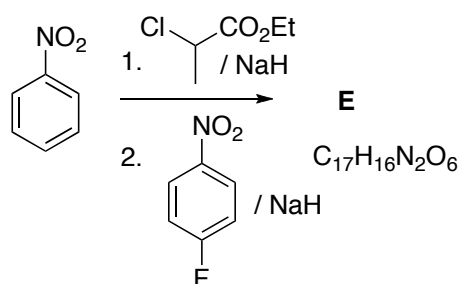
1. (10 points) Draw an arrow-pushing mechanisms for the following transformation.



2. (10 points) Draw an arrow-pushing mechanisms for the following transformation.



3. (10 points) Deduce the structure of **E**, and draw an arrow-pushing mechanism for its formation.
 Be careful with the IHD - we are now dealing with nitro groups - NO_2 counts as halogen!



IR: 3080, 2989, 2457, 1928, 1721, 1596, 1530, 1463, 1342, 1248, 1094, 1014, 858 cm^{-1}

$^1\text{H NMR}$:	$^{13}\text{C NMR}$:
8.10 4H, d, $J=8.9$ Hz	173.2, s,
7.33 4H, d, $J=8.9$ Hz	150.9.0, s
4.19 2H, q, $J=7.1$ Hz	(2)
1.93 3H, s	147.3, s (2)
1.16 3H, t, $J=7.1$ Hz	129.4, d (4)
	123.9, d (4)
	62.8, t
	57.2, s
	27.0, q
	14.3, q