Analysis of a Titration of a Strong Acid with a Strong Base

Assume that you have 25.0 cm³ of 0.200 mol dm⁻³ hydrochloric acid, $HCl_{(aq)}$, in an Erlenmeyer flask.
You are in the process of titrating this with 0.200 mol dm⁻³ sodium hydroxide, $NaOH_{(aq)}$.
The temperature at which the reaction is being performed is 25.0 °C.
The balanced equation for this reaction is: _____

Fill in the following table.
Plot a titration curve for the strong acid – strong base titration being performed, using the data in the table below.
Plot the "pH" along the y - axis of a graph and "volume of base added" along the x – axis.
Indicate the equivalence point on the graph.   Indicate a suitable indicator for this titration.

cm³ of 0.200 moldm⁻³ NaOH added V	Total flask volume (cm³) V_T	Total # mols NaOH added $n = C_{NaOH} \times V$	# of mols $H^{+1}_{(aq)}$ in excess $n_{HCl} - n_{NaOH}$	# of mols $OH^{-1}_{(aq)}$ in excess $n_{NaOH} - n_{HCl}$	$[H^{+1}]$ in flask in excess to water $c = n_{HCl} \div V_T$	$pH = -\log[H^{+1}]$ $14.00 - (-\log[OH^{-1}])$	$[OH^{-1}]$ in flask in excess to water $c = n_{NaOH} \div V_T$
0.0	25.0	0.00	0.00500	0.00	0.200	0.700	0.00
10.0				0.00			
20.0				0.00			
24.0				0.00			
24.9				0.00			
25.0	50.0	0.00500	0.00	0.00	1.00×10^{-7}	7.000	1.00×10^{-7}
25.1			0.00		0.00		
26.0			0.00		0.00		
30.0			0.00		0.00		
50.0			0.00		0.00		