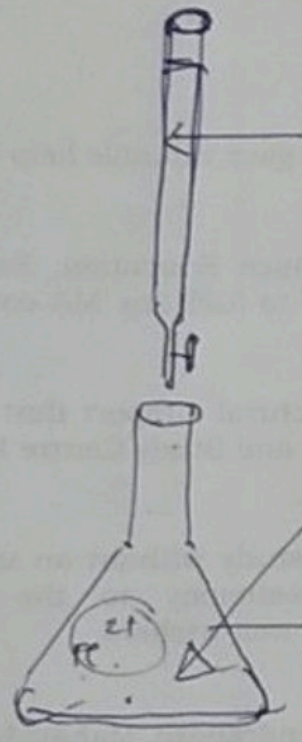


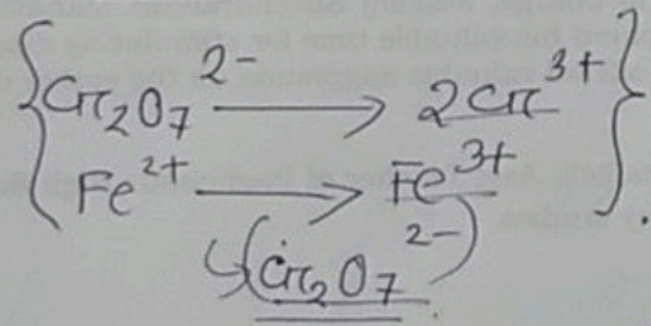
Standardisation of Mohr's salt
 solution by standard $K_2Cr_2O_7$ soln



Standard (1°)
 $K_2Cr_2O_7$ soln.

25 ml.
 Mohr's salt.

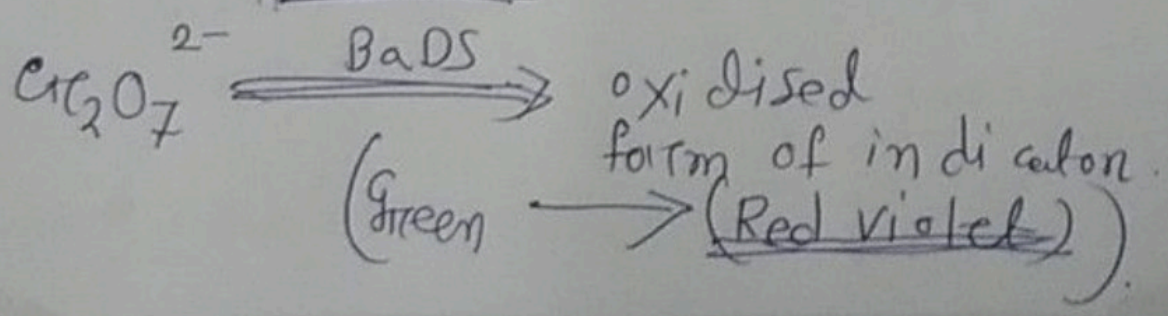
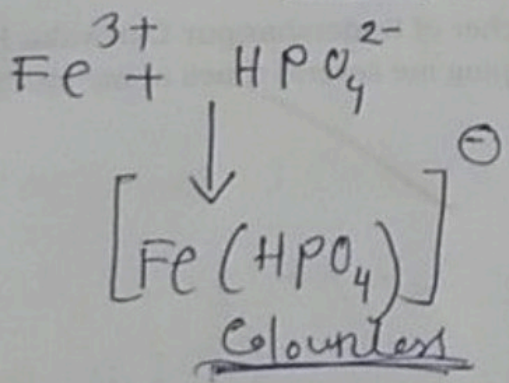
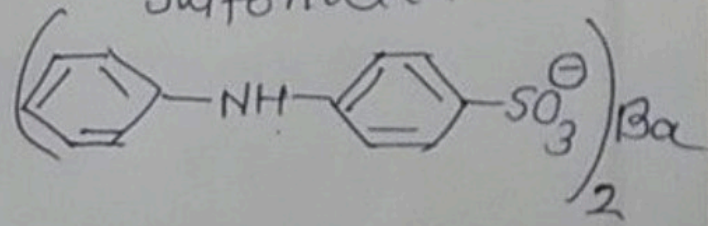
- + 5 ml conc. H_2SO_4
- + 5 ml H_3PO_4
- + 125-150 ml H_2O



Indicator
 (5-10 drops)

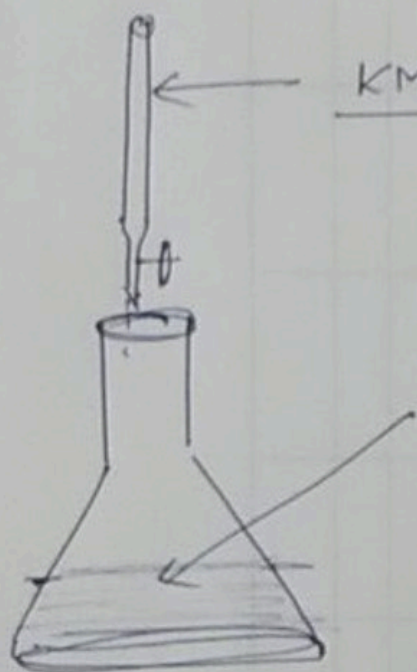
BaDS

Barium diphenylamine
 sulfonate.



$$\left. \begin{aligned} E^\circ_{\text{Fe}^{3+}/\text{Fe}^{2+}} &= +0.77 \text{ volt} \\ E^\circ_{\text{Cr}_2\text{O}_7^{2-}/\text{Cr}^{3+}} &= +1.33 \text{ volt} \end{aligned} \right\}$$

Titration of Mohr's salt by KMnO_4
 * Soln (Permanganometry)



KMnO_4

$$\left\{ \begin{aligned} E^\circ_{\text{MnO}_4^-/\text{Mn}^{2+}} &= +1.55 \text{ V} \\ E^\circ_{\text{Fe}^{2+}/\text{Fe}^{3+}} &= +0.77 \text{ V} \end{aligned} \right.$$

2 ml Mohr's salt.
 + 5 ml. conc. H_2SO_4
 + 120 ml. H_2O

(Mn^{2+} → act as catalyst)

End Point

↳ (deep violet) → (check Burette reading)

No. of obs	Vol. of KMnO_4 Mohr's salt (V_1)	Vol of KMnO_4 (Burette reading)				Strength of KMnO_4 (S_2)	Strength Mohr's salt soln (S_1)
		Initial	Final	Diff	V_2		
1	25 ml	0	24.4	24.4	24.4	0.997(N/10)	
2	25 ml	0	24.4	24.4			

$$V_1 \times S_1 = V_2 \times S_2$$

$$\Rightarrow 25 \times S_1 = 24.4 \times 0.0997(N) = 5.4345 \times \frac{55.857}{H}$$

$$S_1 = 0.0973(N)$$

$$\text{Amt of } \text{Fe}^{2+} = (0.0973$$