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# **PROCESS OF POLAROGRAPHY TITRATION AND APPLICATION**

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## POLAROGRAPH

**It is the current voltage curve obtained during the polarographic titration. In this these 3 current are of important,**

**$i_r$  (residual current) which is the current obtained when no electrochemical change takes place.**

**$I_a/I_l$  (average current/limiting current) is the current obtained by averaging current values throughout the life time of the drop while**

**$i_d$  (diffusion current) which is the current resulting from the diffusion of electro active species to the drop surface.**



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## **PROCEDURES**

- **Materials Required:** 1. Polarographic Instrument. 2. Beaker. 3. 10 mL Pipette. 4. Wash bottle. 5. 100 mL volumetric flask.
- **Reagents required:**
  1. Cadmium standards.
  2. 2 M KCl solution.
  3. 0.2% gelatin solution.
  4. Distilled water.



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## **PROCEDURE of A AUTOMATED PORAROGRAPH**

- **Select the concentration from the list.**
- **Click “Load Cadmium Sample” button.**
- **Select “Scan Analysis”.**
- **Click “Plot Graph”.**
- **Select the unknown concentration from the concentration list. □**
- **Repeat the steps 2, 3 and 4.**
- **Enter the concentration values on the worksheet.**
- **Plot calibration curve by clicking the “plot” button on the worksheet.**
- **Calculate the unknown concentration value from the calibration curve**



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## **PHARMACEUTICAL APPLICATIONS OF POLAROGRAPHY**

- **(1) Dissolved oxygen and peroxides.**
- **(2) Trace metals and metal-containing drugs.**
- **(3) Antiseptics and insecticides.**
- **(4) Vitamins.**
- **(5) Hormones.**
- **(6) Antibiotics.**
- **(7) Alkaloids.**
- **(8) Blood serum and cancer diagnosis**



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**THANK YOU**