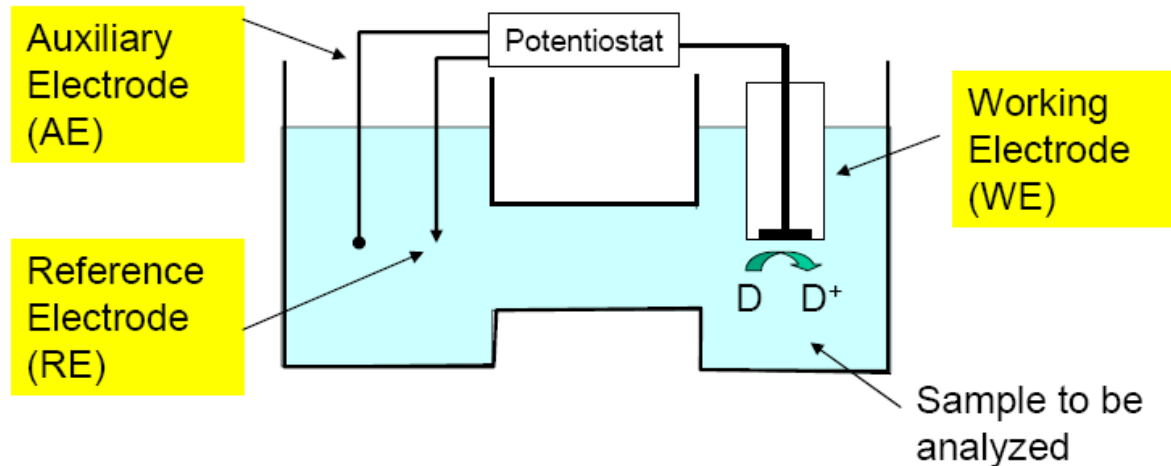


Amperometria → medir corrente em E constante

Amperometry



Procedure for simple amperometry

1. Apply potential to WE relative to RE
2. Measure current at WE (i.e., between WE and RE)

BIAMPEROMETRIA

- Técnica para medir ponto final em titulação:
 - aplicar uma ddp fixa e medir a corrente
 - (potenciometria – métodos visuais – métodos colorimétricos, etc)
- dois eletrodos idênticos (ex. 2 fios de platina, 2 fios de Au, 2 fios de prata)

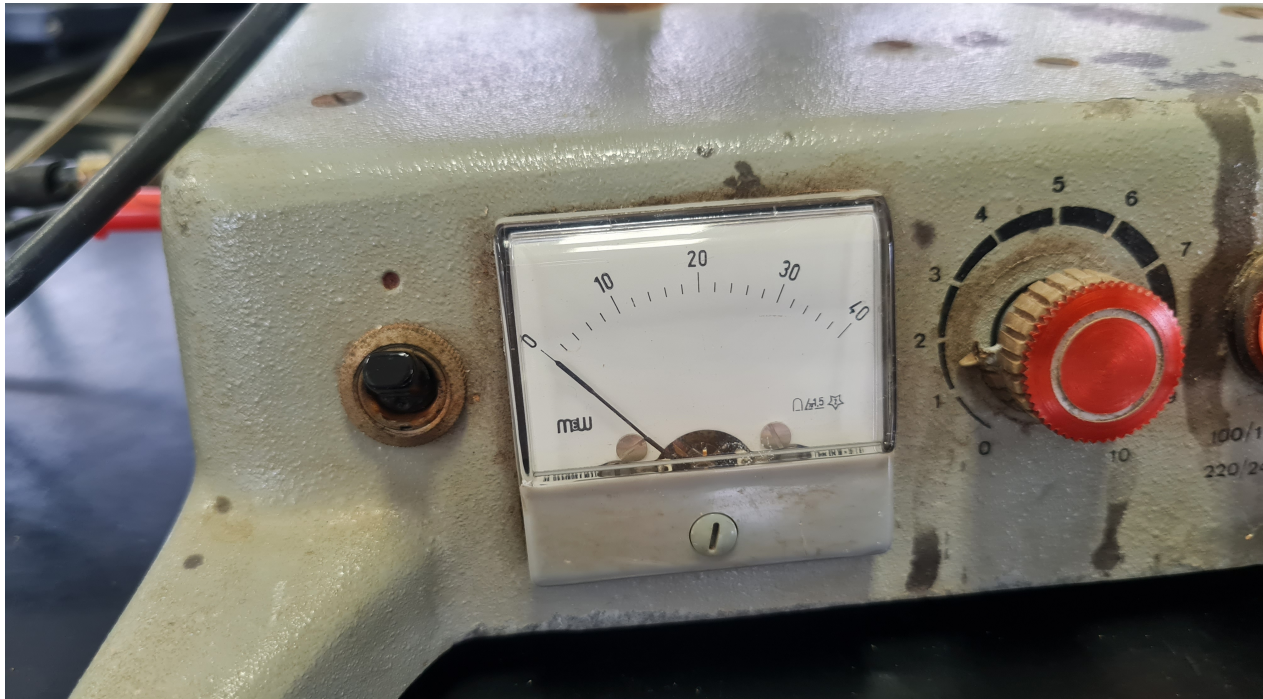
Procedimento de trabalho:

1. Aplica-se uma pequena diferença de potencial fixa entre estes dois eletrodo
→ **50 a 100 mV**
1. Mede-se a corrente gerada durante a titulação
2. **Só é aplicável caso o reagente ou a produto formado forme uma dupla redox reversível (exemplos mais comuns : Fe(II)/Fe(III); Ce(III)/Ce(IV); Ag⁰/Ag⁺; I₂/I⁻).**

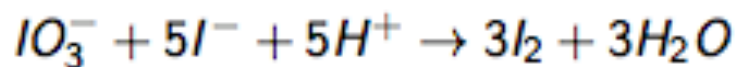
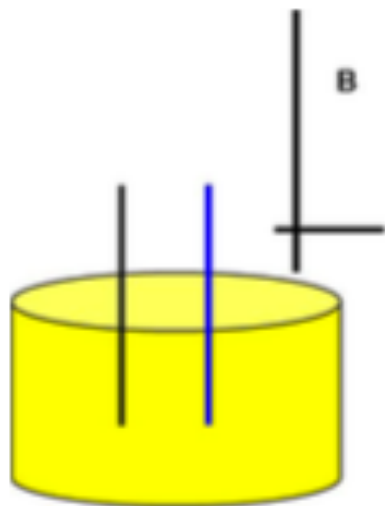
Aparelhagem



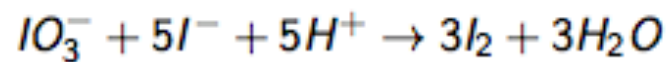
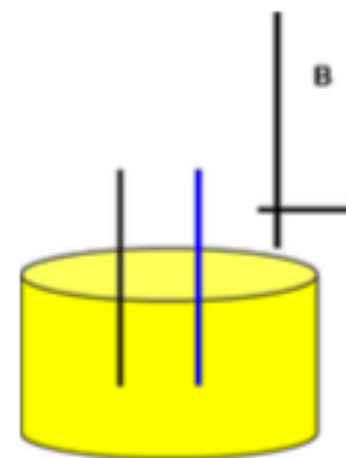
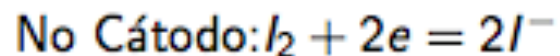
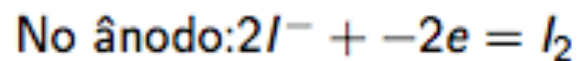
Ponto final da titulação $I = 0$



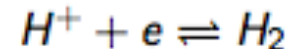
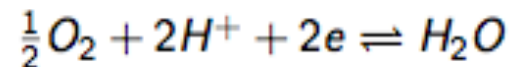
Titulação de iodato (A) com tiosulfato (B)



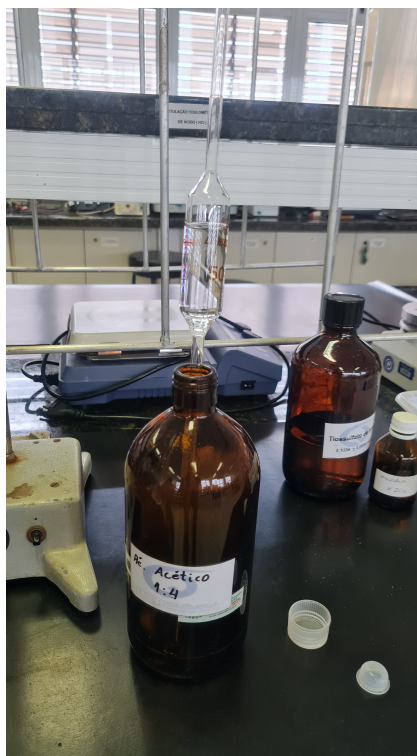
$$\Delta E = 100mV$$



$$\Delta E > 600mV$$



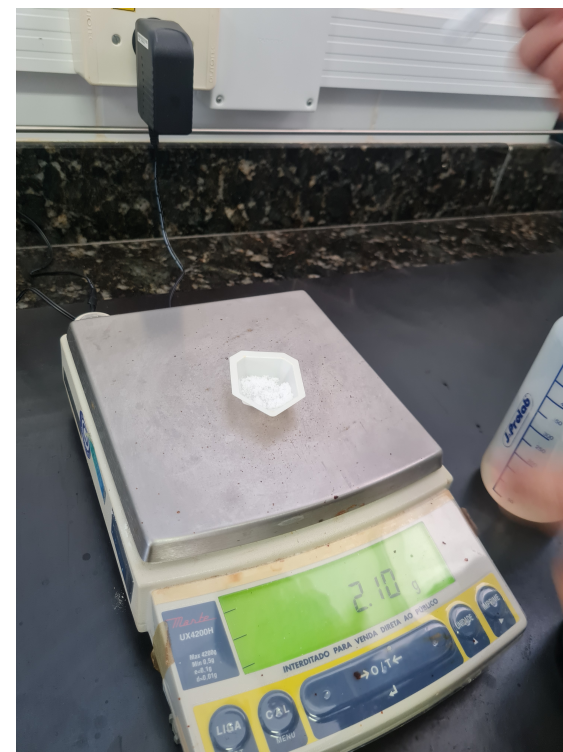
- 1- preparar o Eletrólito de suporte- HAC
- 2- transfere para a célula eletroquímica
- 3- adiciona-se 2,0 g KI (iodeto em excesso)



1



2

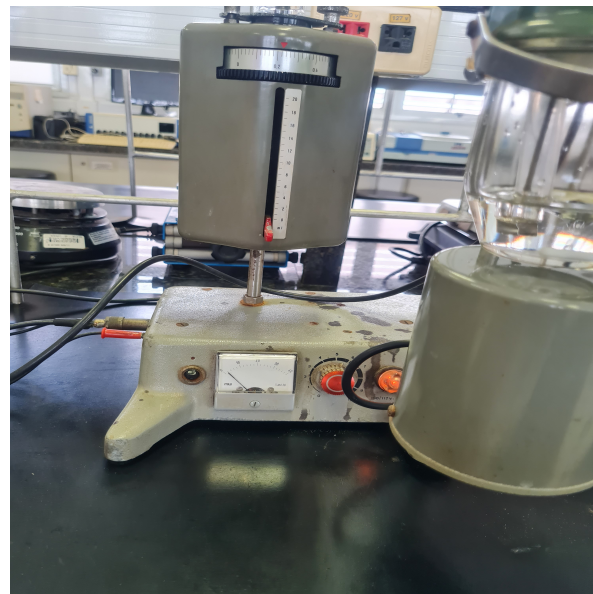
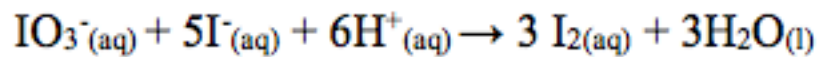


3

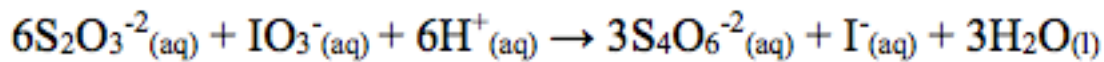
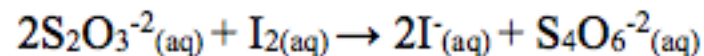
Titulação: da amostra de iodato



t=0

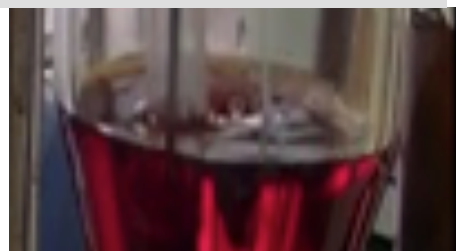
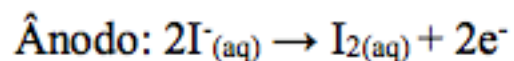
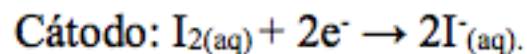
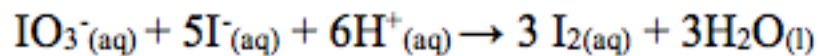


t=final

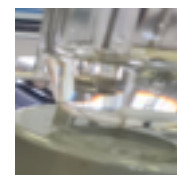
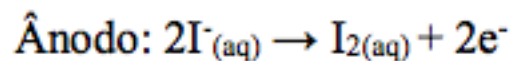
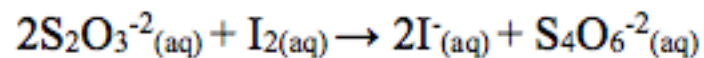


A leitura do eletrodo

Antes do ponto final I_2/I^- (par redox \rightarrow I alta)



Após o ponto final (todo I_2 consumido $I = 0$)



Preparo da amostra

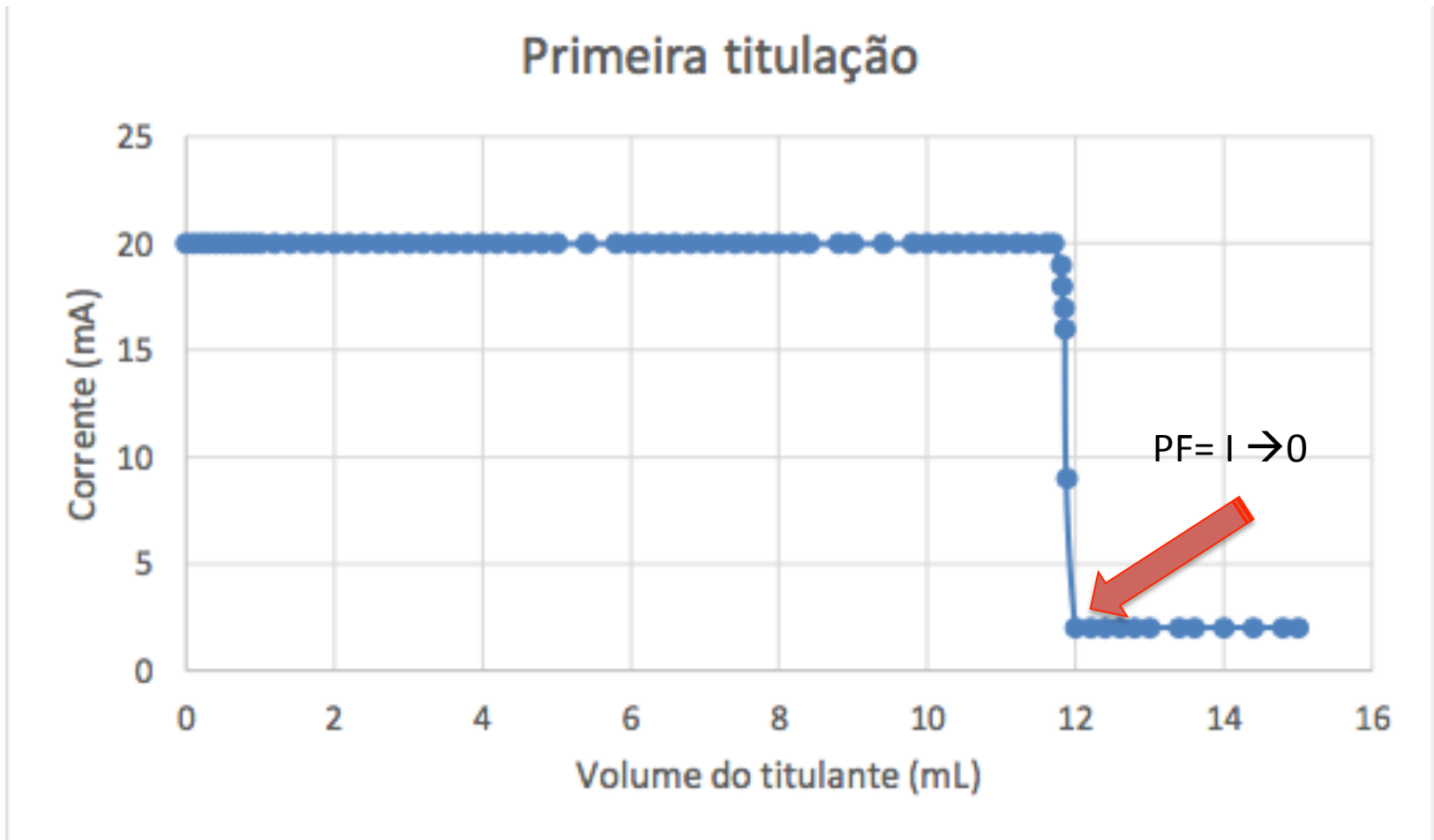


ver o filme anexado

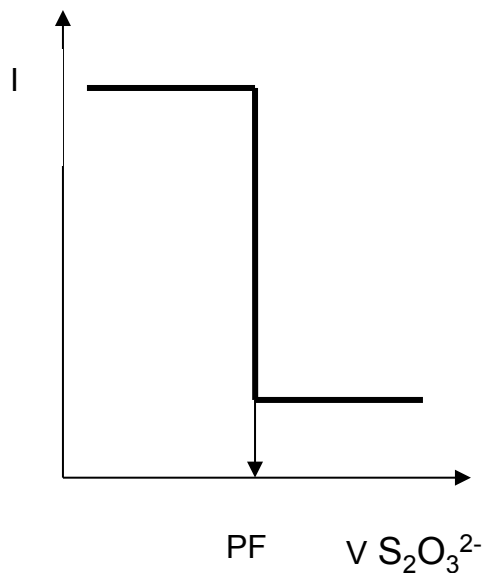


ver o filme anexado

Curva experimental



Forma da curva e PF



- $t = 0 \rightarrow$ tem a dupla redox I_2/I^- portanto flui uma corrente proporcional ao valor da concentração de iodo.
- $t > 0 \rightarrow$ iodo passa a ser consumido pelo $S_2O_3^{2-}$
- ponto final da curva $i \sim 0 \rightarrow$ todo o iodo é consumido e passa a não fluir corrente uma vez que $S_2O_3^{2-} / S_4O_6^{2-}$ não é reversível