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| **UNIVERSITE D’ORAN DES SCIENCES ET DE LA TECHNOLOGIE «MOHAMED BOUDIAF»****Faculté de Chimie - L3 Génie des procédés-****TP- Chimie physique-*****Nom et Prénom (s):* Groupe :**……………..………………………………………………………………. ………………………………………………………………. **Note :**………. /20……………………………………………………................ |

**COMPTE RENDU DU TP 04 : REACTION PERSULFATE-IODURE**

**Réponses aux questions :**

1. Les quantités de réactifs ont été utilisées dans les proportions stœchiométriques. Montrer que dans ces conditions, la constante de vitesse est :

**k=** $(\frac{1}{2at})$$\frac{X }{(a-X )}$

Avec : **a** : concentration initiale du persulfate de potassium (mol/l).

 **x** : concentration d’iode formé au temps « **t** » (mol/l).

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1. Soit **Vt** le volume de Na2S2O3 utilisé au temps « **t** » et **Vi** au temps infini. Montrer que **:**

**k=** $(\frac{1}{2at})$$\frac{Vt }{(Vi-Vt )}$

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1. Donner la réactiondethiosulfate de sodium Na2S2O3avecle milieu réactionnel.

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1. Tracer le graphique de $\frac{Vt }{(Vi-Vt )}$ = f(**t**) et déterminer k.

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1. Expliquer l’effet de :a) la dilution, b) l’ajout des glaçons, c) l’ajout de KI solide et d) le chauffage du mélange réactionnel sur les résultats obtenus.

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1. Expliquer pourquoi on ajoute l’amidon durant le titrage ?

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1. Calculer le temps **t1/2**de la réaction et le vérifier sur le graphique.

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1. Calculer la force ionique initiale du mélange réactionnel.

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1. Si on augmentait la force ionique en ajoutant un électrolyte fort et qui ne participe pas à la réaction tel que NaCl, quel serait l’effet sur la vitesse de la réaction ? Expliquer

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