**Práctica 2: Conductimetría**

## Objetivos:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Resultados:

1. **Determinación de la constante de la celda conductimétrica:**

**Temperatura (°C): \_\_\_\_\_\_\_\_**

**GH20 (S): \_\_\_\_\_\_\_\_**

**GSOLUCIÓN (S): \_\_\_\_\_\_\_\_**

**GKCl (S): \_\_\_\_\_\_\_\_**

**k (cm-1): \_\_\_\_\_\_\_\_**

Detallar todos los cálculos para la obtención de la constante de la celda conductimétrica (k).

**Para las partes B) y C) completar las siguientes tablas de datos:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  |  | GH2O = \_\_\_\_\_\_\_\_ | |  | | VH2O = \_\_\_\_\_\_\_\_ | | |
| **VKCl agregado** | **G Medida Solución** | **G KCl** | **χ KCl** | **CKCl** | **Λ KCl** | | | | **√ CKCl** | |
| (cm3) | (S) | (S) | (S cm-1) | (M o mol cm-3) | (S cm2 mol-1) | | | | (mol cm-3)1/2 | |
| **KCl** | | | | | | | | | | |
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|  | |  |  | GH2O = \_\_\_\_\_\_\_\_ | | |  | VH2O = \_\_\_\_\_\_\_ | |  | |  |  |
| **VHAc agregado** | **G Medida Solución** | **G HAc** | **χ HAc** | **CHAc** | **Λ HAc** | | | | **√ CHAc** | | **Λ HAc CHAc** | **1/Λ HAc** | |
| (cm3) | (S) | (S) | (S cm-1) | (M o mol cm-3) | (S cm2 mol-1) | | | | (mol cm-3)1/2 | | (S cm-1) | (Ω mol cm-2) | |
| **HAc** | | | | | | | | | | | | | |
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## Graficar y anexar a la ficha:

1. Conductancia molar del KCl (ΛKCl) vs. raíz cuadrada de la concentración de KCl (√CKCl) y verificar que cumple la Ley de Kohlrausch.
2. Conductividad del KCl (χKCl) vs. concentración del KCl (CKCl).
3. Conductancia molar del HAc (ΛHAc) vs. raíz cuadrada de la concentración de HAc (√CHAc) y analizar el comportamiento de la curva.
4. Conductividad del HAc (χHAc) vs. concentración del HAc (CHAc).
5. Inverso de la conductancia molar del HAc (1/ΛHAc) vs. el producto de la conductancia molar del HAc por la concentración del HAc (ΛHAc CHAc). Utilizando la relación de Arrhenius (Ec. 30) determinar la constante de equilibrio para la disociación del ácido acético (KHAc) y su pKHAc.

### B) Estudio del comportamiento de una solución con un electrolito verdadero (KCl)

***Gráfico* ΛKCl vs. √ CKCl *- Ajuste el modelo lineal***

**R2 = \_\_\_\_\_\_\_\_\_\_\_\_**

**Ord. Orig. = \_\_\_\_\_\_\_\_\_\_\_\_\_**

**Pendiente = \_\_\_\_\_\_\_\_\_\_\_\_\_**

***Resultados finales***

**Λ0 (teórico) = \_\_\_\_\_\_\_\_\_\_\_\_**

**Λ0 (experimental) = \_\_\_\_\_\_\_\_\_\_\_\_\_**

**% apartamiento = \_\_\_\_\_\_\_\_\_\_\_\_\_**

### C) Estudio del comportamiento de una solución de un electrolito potencial (HAc) y determinación de su constante de equilibrio

***Gráfico* 1/ΛHAc *vs.* ΛHAc CHAc *- Ajuste el modelo lineal***

**R2 =** \_\_\_\_\_\_\_\_\_\_\_\_

**Ord. Orig. = \_\_\_\_\_\_\_\_\_\_\_\_\_**

**Pendiente = \_\_\_\_\_\_\_\_\_\_\_\_\_**

***Resultados finales***

**Λ0 (teórico) = \_\_\_\_\_\_\_\_\_\_\_\_**

**Λ0 (experimental) = \_\_\_\_\_\_\_\_\_\_\_\_\_**

**pKHAc (con Ʌ0,HAc teórico) = \_\_\_\_\_\_\_\_\_\_**

**Comparar el valor de pKHAc** **obtenido con el pKHAc** **teórico (4.75).**

¿Qué puede concluir de cada uno de los gráficos de las partes B y C? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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