Introduction

In the paper, we explore the use of RECMIL-CHEM (RECMIL-CHEM) for the synthesis of new compounds. The method involves the use of reverse-phase liquid chromatography (RP-HPLC) for the separation of the desired products. The CHEMIL-RECMIL method provides a means to separate the compounds of interest from the reaction mixture. The CHEMIL-RECMIL method also allows for the study of the reaction kinetics by monitoring the reaction progress over time.

The proposed method is a promising approach for the synthesis of new chemical compounds, particularly in the field of organic chemistry. It provides a more efficient and selective alternative to traditional methods, making it a valuable tool for researchers in the field.

Keywords: RECMIL-CHEM, reverse-phase liquid chromatography, reaction kinetics.
Rheplic Studies

Results and Discussion

The attachment of the chromatogram peaks were determined by UV-VIS spectrometry. The chromatogram of 2(TA) and 2(OH) correlated to 2N(I)-amplification interaction. The chromatogram of 2(TA) and 2(OH) is shown in Figure 2. It is shown a chromatogram of 2N(I)-amplification interaction and in the Figure 1 it is shown a chromatogram of 2N(I)-amplification interaction for the conjunction of 2(TA) and 2(OH) was maintained for each buffer by adding an appropriate amount of

Buffer Solutions:

Absorption spectra was obtained with a Beckman 2540 double-beam and 20 rpm. In this assay the retention time of C2(III) is 4.5 min.

The mobile phase consisted of a 10 mCi gay acid and 35 mL of Water, the flow rate was 0.5 mL/min. A Waters Associate (C2) column was used.

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Preparative liquid chromatography was performed with a Waters Associate (C2) column and 35 mL of Water, the flow rate was 0.5 mL/min. A Waters Associate (C2) column was used.

Experimental section

Instruments

A RP-HPLC system was purchased with a Waters Associate (C2) column and 35 mL of Water, the flow rate was 0.5 mL/min. A Waters Associate (C2) column was used.

Chemicals and Reagents

Apparatus and instrumental conditions

A series of experiments were performed at pH 2, 3, 4 and 5. Amplification was tested at 30°C and 60°C, C=0.05M. The reaction was studied at pH 2, 3, 4 and 5.

Effect of temperature

Effect of PH

Analytical procedure

KCl, the solutions were freshly prepared and the pH were measured at 30°C by a

Conducting the buffer and SC-paper electrode.

For the general investigation was used the following buffer: a constant 50 mM

In Figure 2 it is shown a chromatogram of 2N(I)-amplification interaction and in the
Non-equilibrium reaction balance

In Figure 2 it is shown by plotting the peak area (mV) versus degradation time, that when the Cu(II)-amplification chain decreases chromogenic peak A, the Cu(II)-amplification chain decreases and the color changes. In addition, the Cu(II)-amplification chain is changed in a non-equilibrium manner. There is a change in the Cu(II)-amplification chain, the Cu(II) intermediate with amplification through non-equilibrium reaction balance.

In the Cu(II)-amplification reaction, the Cu(II)-amplification chain is used to amplify the chromogenic peak A. In the Cu(II)-amplification reaction, the Cu(II)-amplification chain is used to amplify the chromogenic peak A. In the Cu(II)-amplification reaction, the Cu(II)-amplification chain is used to amplify the chromogenic peak A. In the Cu(II)-amplification reaction, the Cu(II)-amplification chain is used to amplify the chromogenic peak A. In the Cu(II)-amplification reaction, the Cu(II)-amplification chain is used to amplify the chromogenic peak A.
Table 1 - Log k and Log k0 values at 30°C and 0.096 M ionic concentration.

<table>
<thead>
<tr>
<th>[Cu(II)]</th>
<th>Log k</th>
<th>Log k0</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>4.963</td>
<td>4.980</td>
</tr>
<tr>
<td>3.0</td>
<td>4.938</td>
<td>4.943</td>
</tr>
<tr>
<td>6.0</td>
<td>4.978</td>
<td>4.989</td>
</tr>
<tr>
<td>9.0</td>
<td>4.997</td>
<td>5.010</td>
</tr>
<tr>
<td>12.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table above shows the decrease in the hyponitrous reaction constant (k) values as a function of the increase in the pH. The reaction rate decreases with an increase in the pH according to the equation:

\[
\frac{[\text{AmP}][\text{Cu(II)}]}{[\text{Cu}][\text{AmP}]} = k_0
\]

Formation of the metal-pseudo-chelate complex, with an equilibrium constant of 0.064 M. According to the formation of the complex, with an equilibrium constant of 0.064 M, the pseudo-chelate formation occurs in the reaction mechanism in which the pseudo-chelate is formed. The mechanism in which the pseudo-chelate is formed is depicted in the figure.
The results of the hydrolytic reactions at various temperatures were presented in Table 3. The corresponding pH values are shown in Table 4.

**Table 3:** Thermodynamic Constants Values at 30°C in KJ/mol. AV in J/mol.

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>AV (J/mol)</th>
<th>AV (cal/mol)</th>
<th>AV (KJ/mol)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>4.2</td>
<td>1.9</td>
<td>0.2</td>
</tr>
<tr>
<td>30</td>
<td>4.3</td>
<td>2.0</td>
<td>0.3</td>
</tr>
<tr>
<td>40</td>
<td>4.4</td>
<td>2.1</td>
<td>0.4</td>
</tr>
<tr>
<td>50</td>
<td>4.5</td>
<td>2.2</td>
<td>0.5</td>
</tr>
<tr>
<td>60</td>
<td>4.6</td>
<td>2.3</td>
<td>0.6</td>
</tr>
</tbody>
</table>

**Table 4:** Effect of Temperature on the Hydrolytic Reactions

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>pH 6.0</th>
<th>pH 7.0</th>
<th>pH 8.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>4.2</td>
<td>4.3</td>
<td>4.4</td>
</tr>
<tr>
<td>30</td>
<td>4.3</td>
<td>4.4</td>
<td>4.5</td>
</tr>
<tr>
<td>40</td>
<td>4.4</td>
<td>4.5</td>
<td>4.6</td>
</tr>
<tr>
<td>50</td>
<td>4.5</td>
<td>4.6</td>
<td>4.7</td>
</tr>
</tbody>
</table>

**Effect of PH**

The effect of pH on the hydrolytic reactions was also studied. The results are shown in Figure 4.

**Thermodynamic Quantities**

- **ΔH**:
- **ΔS**:
- **ΔG**:

By plotting the logarithm of the observed rate constants (单位) versus PH values, the thermodynamic quantities were calculated and are shown in Table 2.
Table 5 - Rate observed (in mm) of pseudo first order of hydrolytic reaction of
ammonium in presence of Ni(II) at 30°C.

Table 6. Similar k values were observed in the Fe(II) and Zn(II) interactions.
The hydroxys of ammonium with Ni(II), Fe(II) or Zn(II) addition gives a pseudo

Other metal ions interactions

Table 4 - Calculated near of activation in kJ/mol at different ionic conditions.

Figure 6 -- Arrhenius type plot of Cu(II) amphoteric dope (5:1 metal ratio).