<table>
<thead>
<tr>
<th>項目</th>
<th>内容</th>
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<tbody>
<tr>
<td>タイトル</td>
<td>研究:チオ尿素誘導体の脂肪酸について</td>
</tr>
<tr>
<td>著者</td>
<td>Oda, Ryohei; Suzuki, Tokushige</td>
</tr>
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<td>京都大学化学研究所報告 (1952), 28: 72-72</td>
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22. Studies on Thiourea Derivatives of Fatty Acids

Ryohei Oda and Tokashige Suzuki

(Oda Laboratory)

It is already known, that alkylthiuronium salt is produced when alkylhalide is condensed with thiourea in alcohol (Org. Synth. collected Vol. II. 1045) and also that pseudothiohydantoin is obtained from monochloracetic acid and thiourea (Org. Synth. 27, 71).

\[
\begin{align*}
R-\text{Br} & + \text{HS-}C\equiv\text{NH} \rightarrow R-S-C\equiv\text{NH} \cdot \text{HBr} \\
\text{Cl-CH}_2\text{-COOC}_3\text{H}_5 & + \text{HS-}C\equiv\text{NH} \rightarrow \text{S-}C\equiv\text{N} \\
& \text{NH-} \cdot \text{HCl}
\end{align*}
\]

We cannot, however, find any publication in which the above mentioned reactions were performed with halogenated oleic acid ester (9,10-dibromstearic acid ester) and \( \alpha \)-bromstearic acid. Therefore the authors intended to investigate this problem and obtained the following results:

1. The reaction product from methyl 9,10-dibromstearate and thiourea.
   
<table>
<thead>
<tr>
<th>Yield</th>
<th>Saponification value</th>
<th>N-content</th>
</tr>
</thead>
<tbody>
<tr>
<td>15g from 20g 9,10-dibromstearate</td>
<td>293.5</td>
<td>9.89%</td>
</tr>
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<td></td>
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</tr>
</tbody>
</table>
   Calculated as
   
   \[
   \text{CH}_3(\text{CH}_2)_7\text{CH-CH(CH}_3\text{)COOH},
   \]

   
   \[
   \text{S-S}
   \]

   
   \[
   \text{C-C}
   \]

   
   \[
   \text{HBr} \cdot \text{NH}_2 \cdot \text{NHNH}_2 \cdot \text{HBr}
   \]

2. The reaction product from \( \alpha \)-bromstearic acid and thiourea.

<table>
<thead>
<tr>
<th>Yield</th>
<th>S-content</th>
<th>N-content</th>
</tr>
</thead>
<tbody>
<tr>
<td>17g from 20g ( \alpha )-bromstearic acid</td>
<td>10.25%</td>
<td>8.07%</td>
</tr>
</tbody>
</table>

   Calculate as

   \[
   \text{C}_{16}\text{H}_{35} - \text{CH-} \rightarrow \text{C}=\text{O}
   \]

   
   \[
   \text{S-NH}
   \]

   
   \[
   \text{NH}
   \]

   In both cases, 20g of the starting material was dissolved in 60g butanol and was stirred with 7g thiourea in a 500cc round bottom flask for 10 hours after cooling the reaction products were separated and purified.