

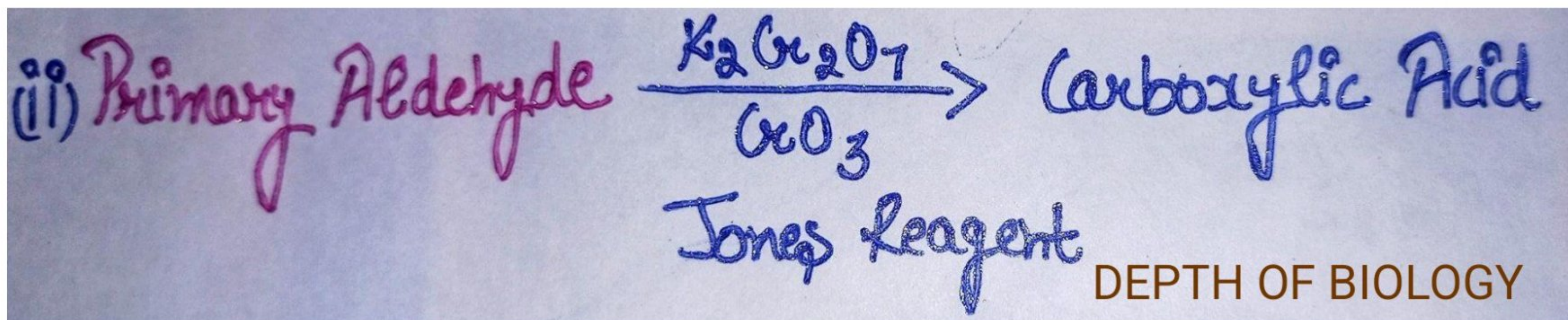
Preparation of COOH

Carboxylic Acid

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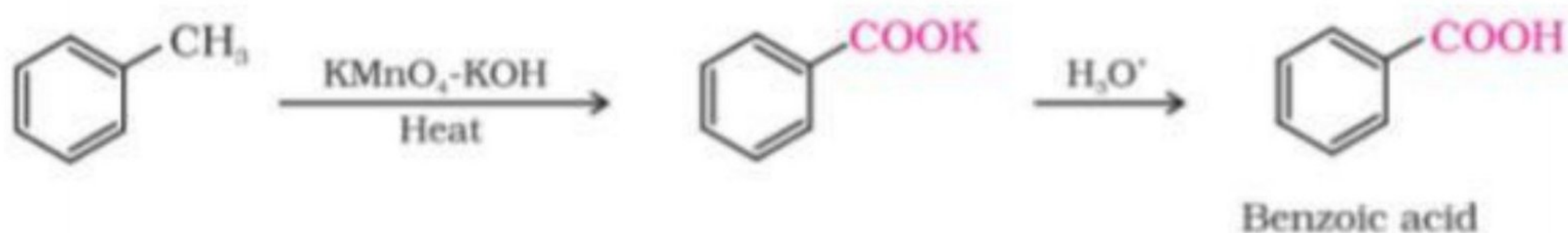


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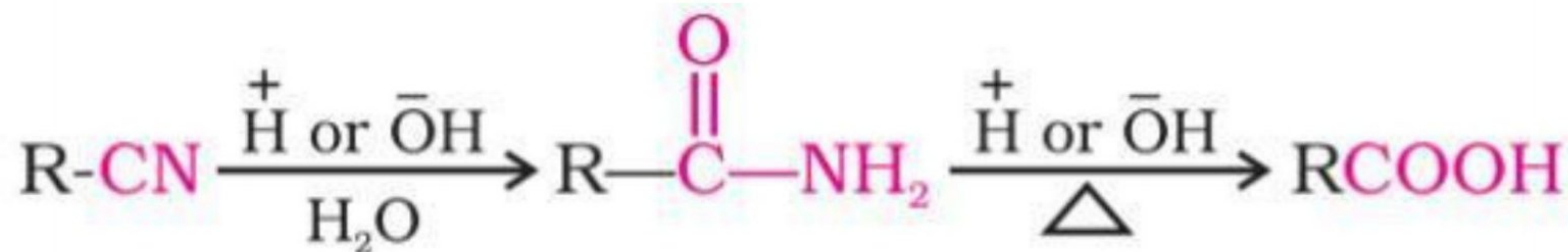
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(iii) From Alkyl Benzene



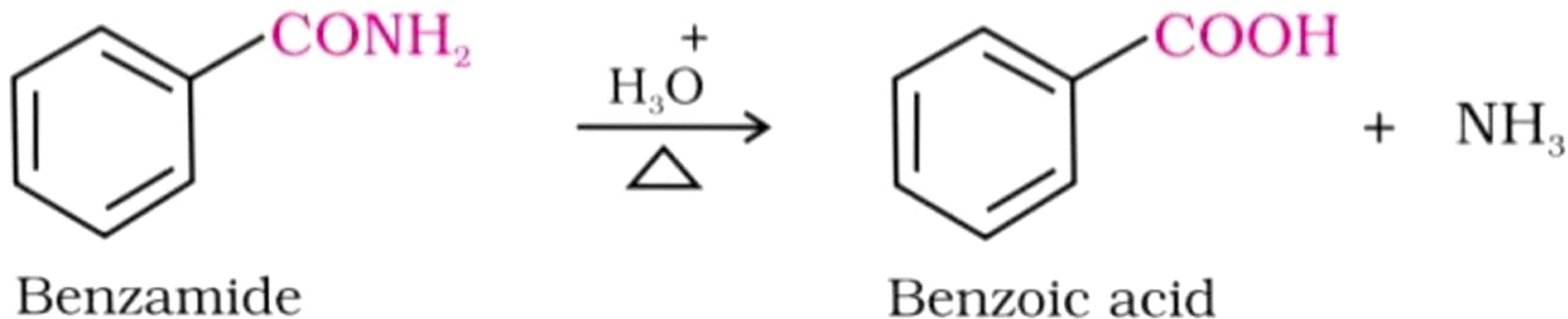
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(iv) By Nitrite and Benzene



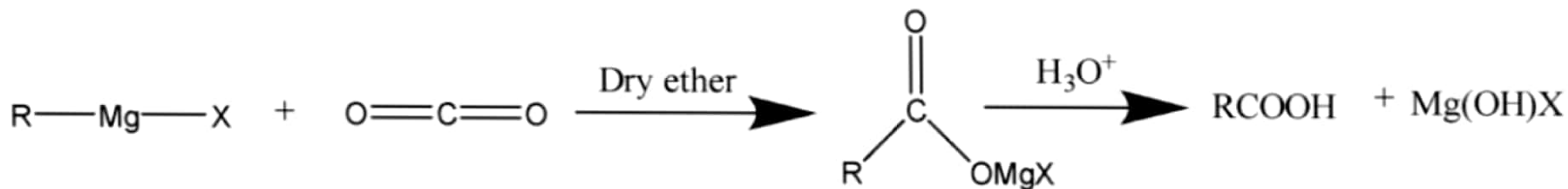
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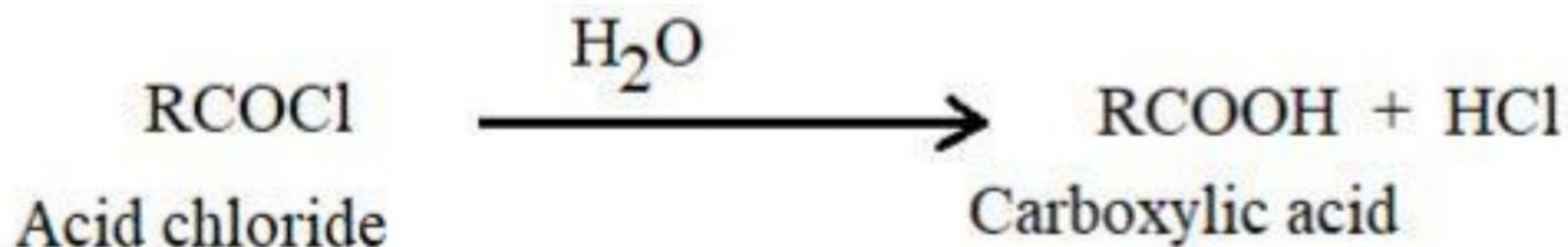
(v) From Grignard 's Reagent (G.R.)



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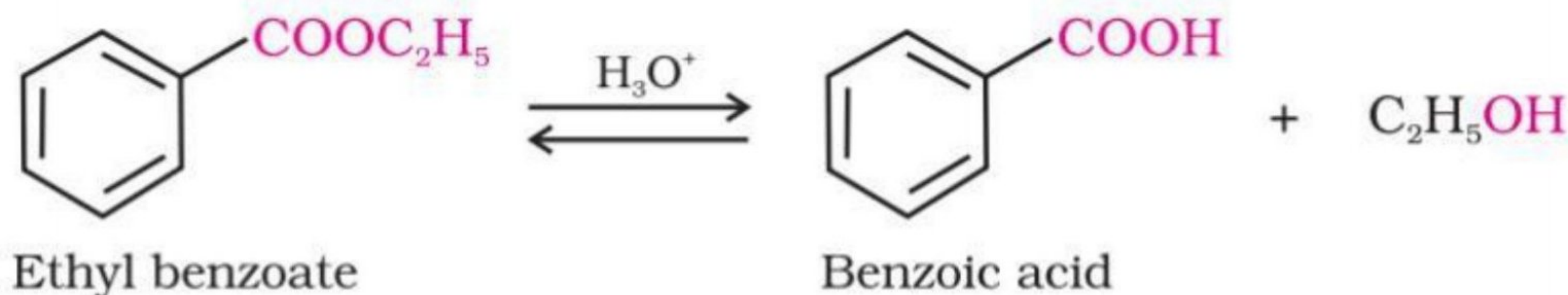
(vi) From acyl Halide and Anhydrides

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(viii) From ester

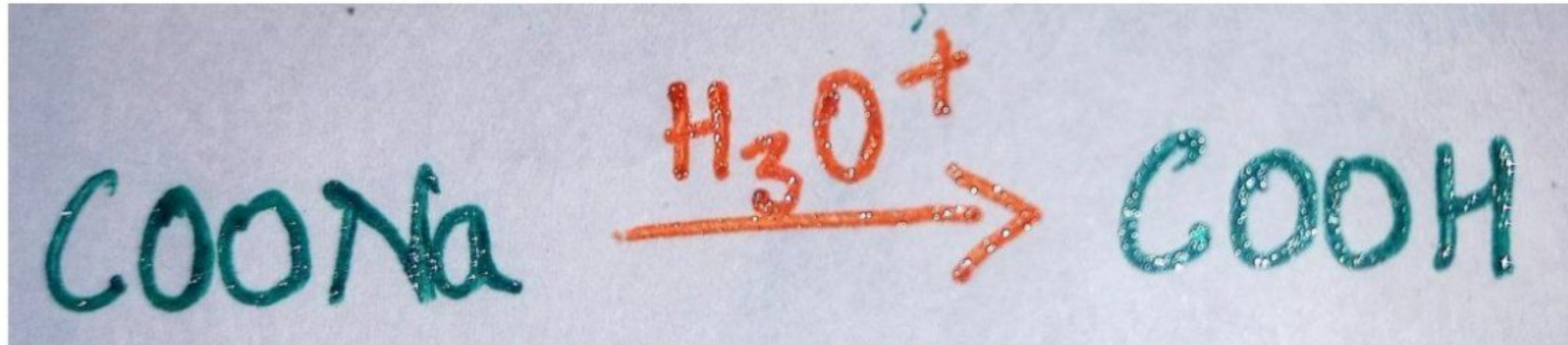
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But when react with Base like NaOH
it gives

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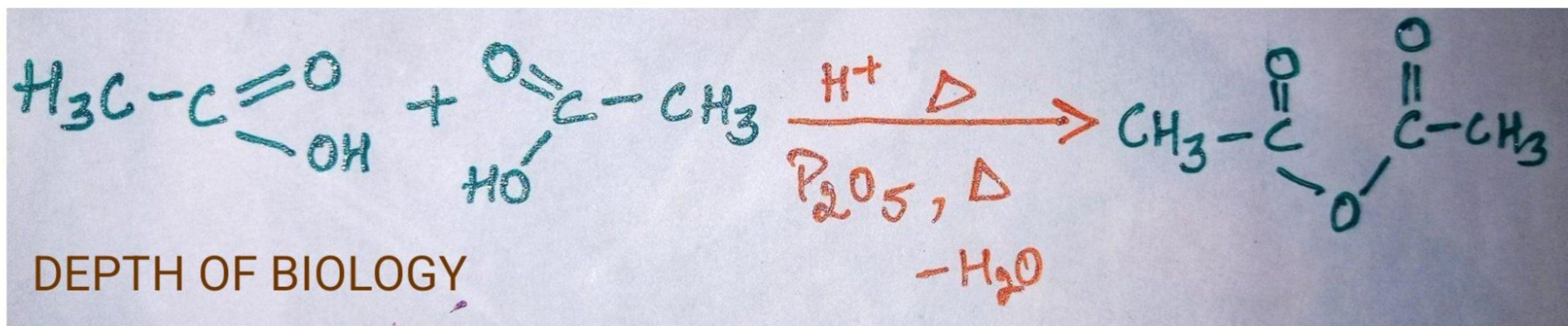


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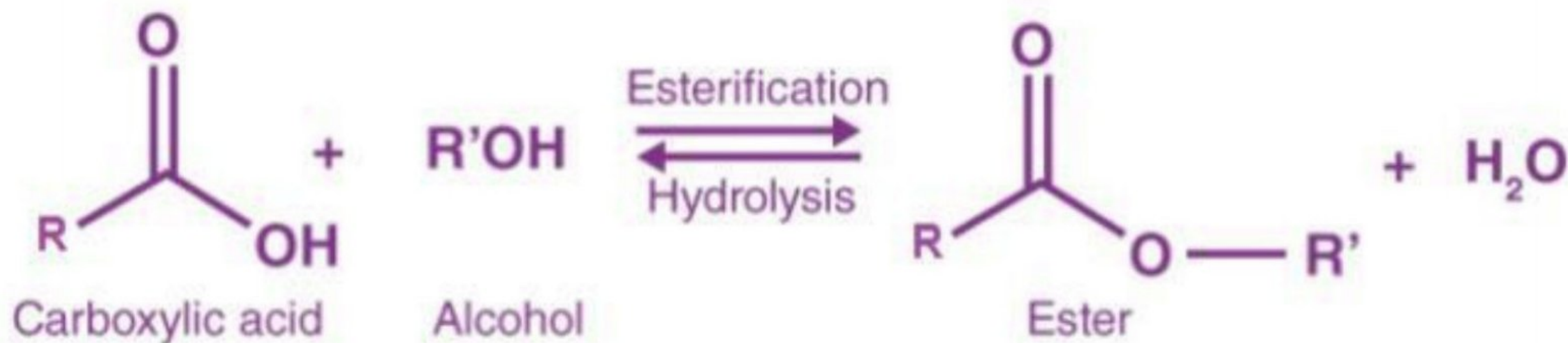
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Reactions of COOH

(i) Formation of Anhydride DEPTH OF BIOLOGY

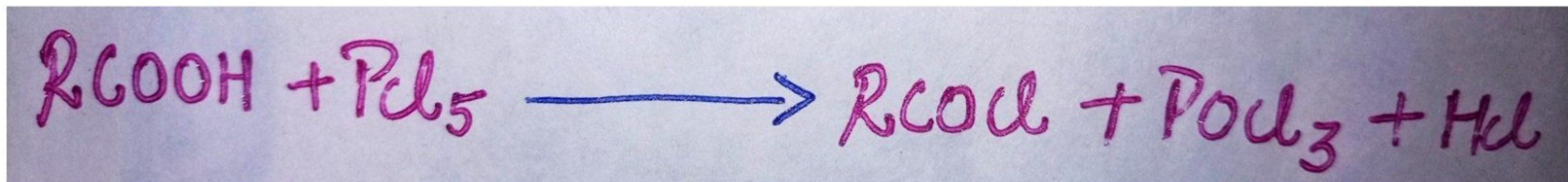


(ii) Esterification DEPTH OF BIOLOGY



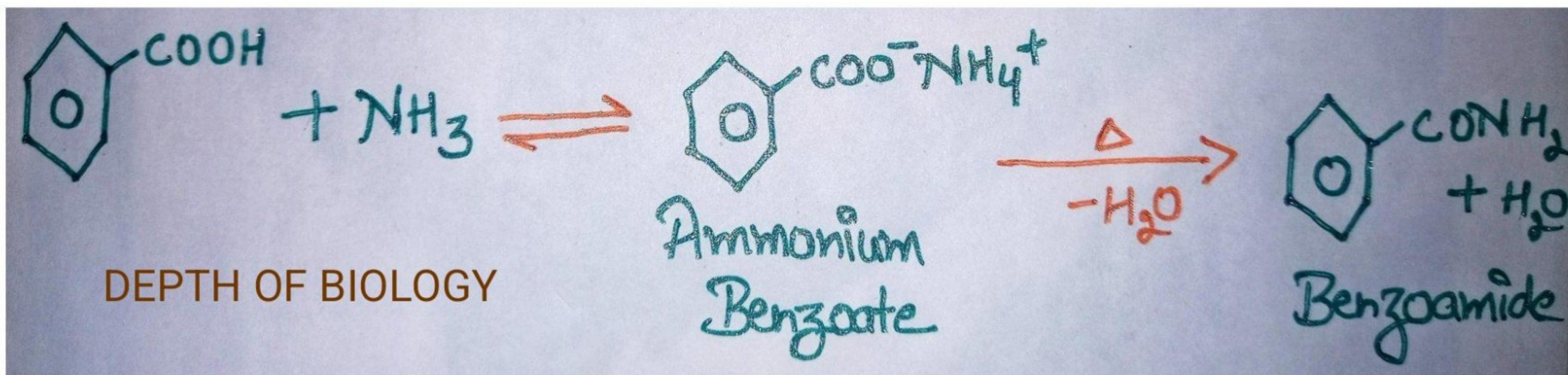
(iii) Reaction with PCl_3 , PCl_5 , SOCl_2 (Thionyl chloride)

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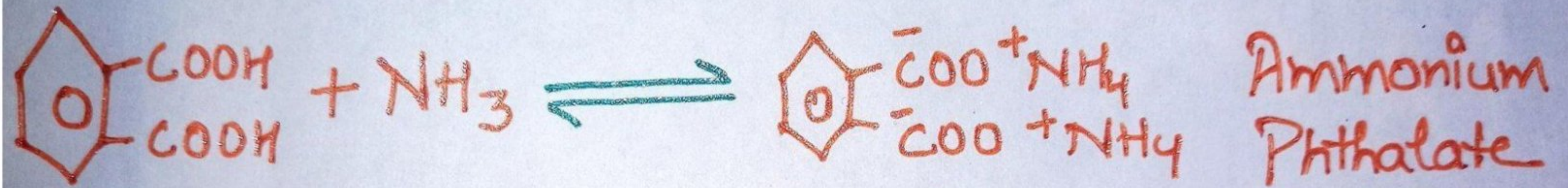


(iv) Reactions with NH_3

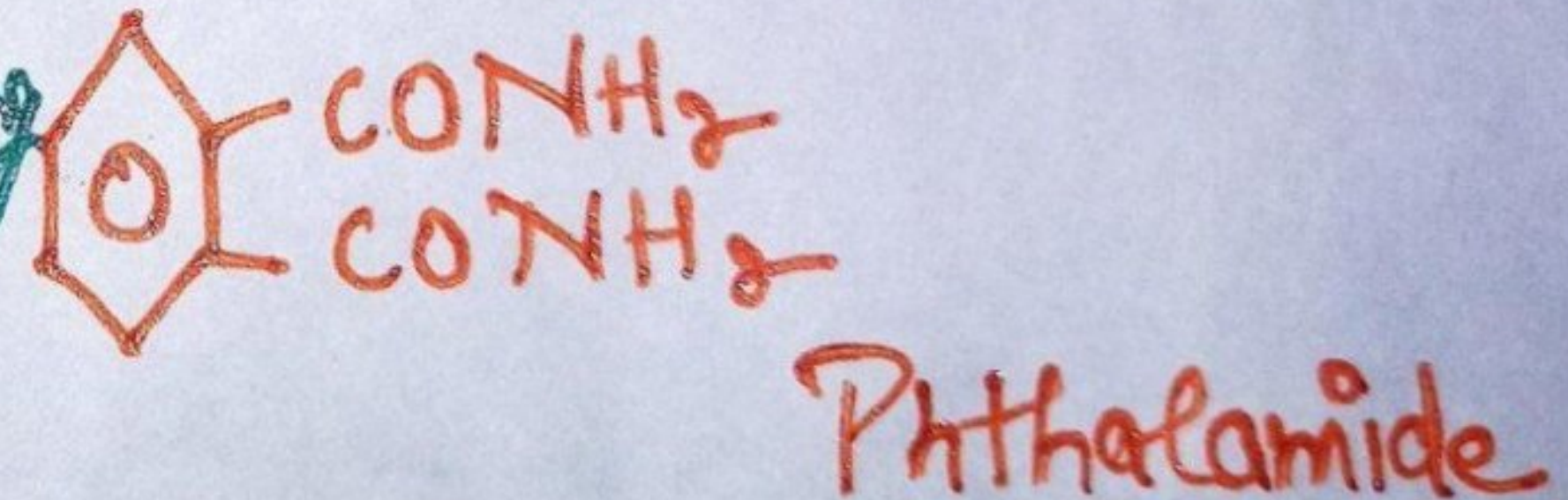
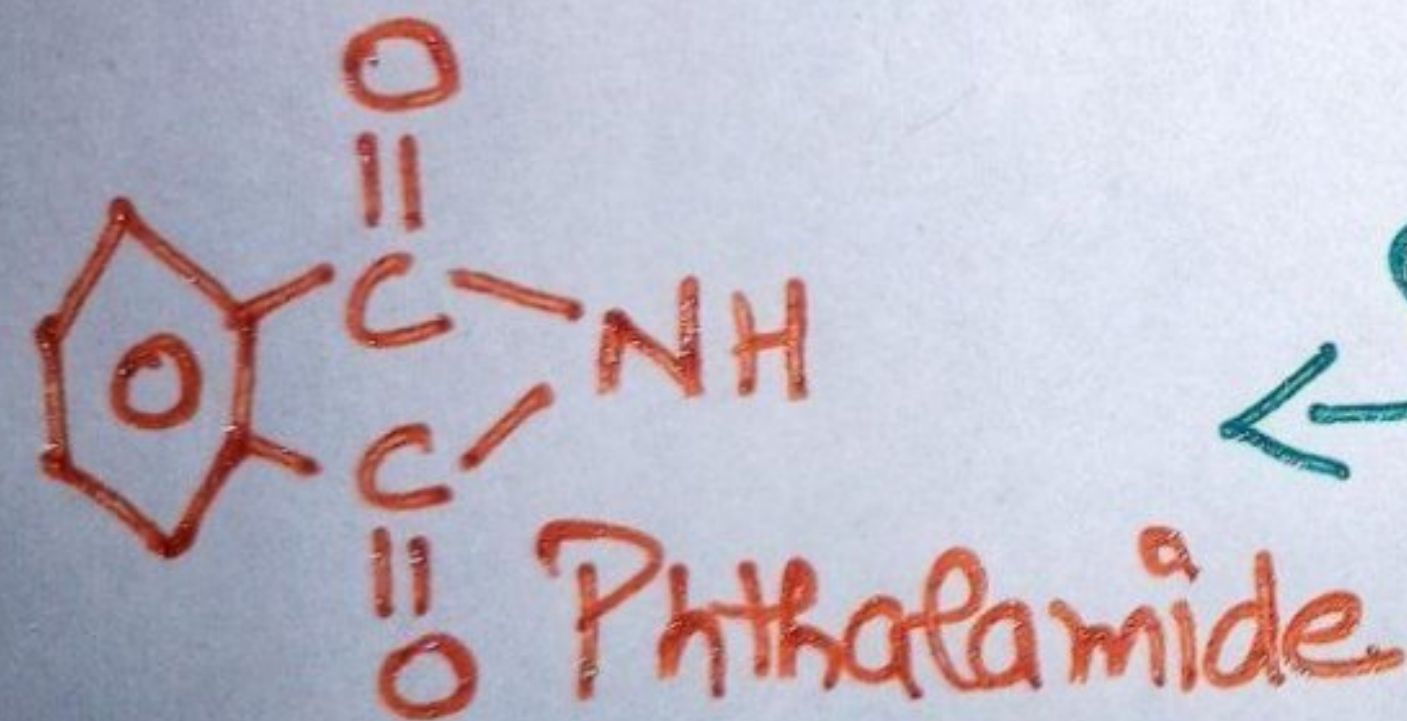
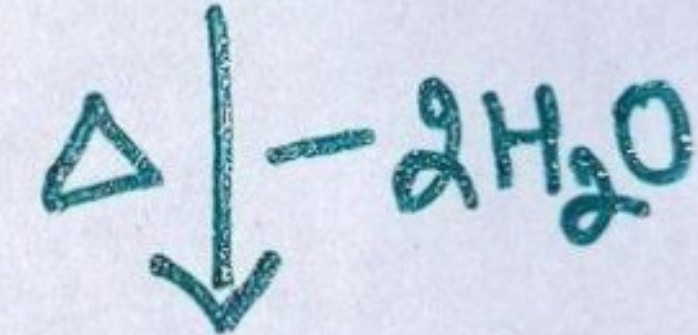
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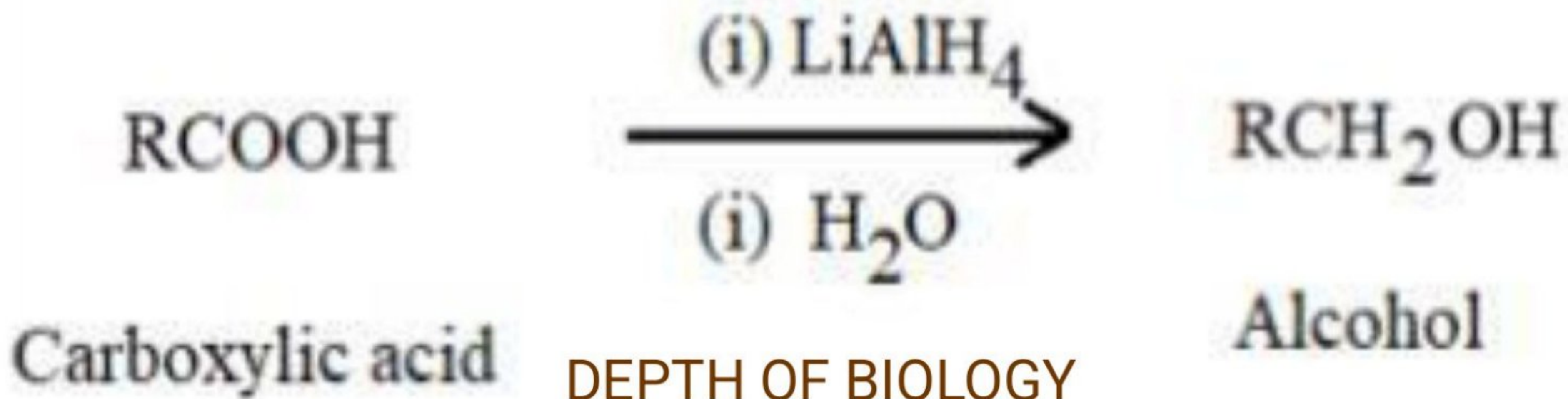
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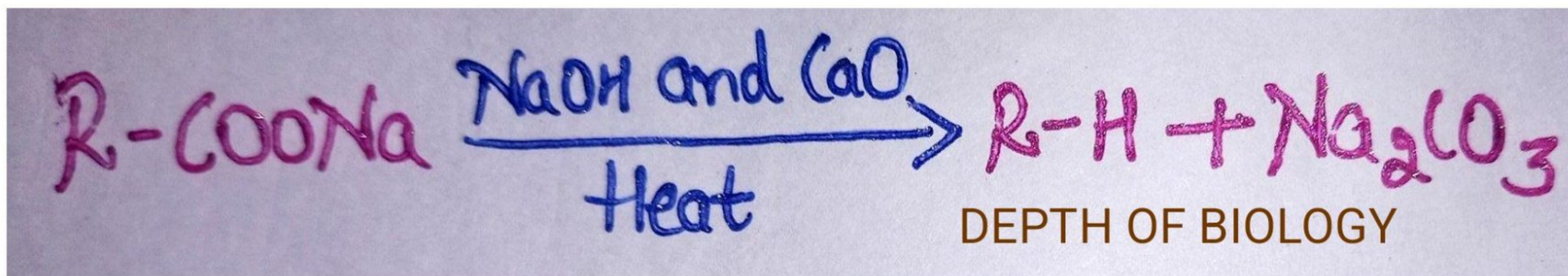
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(v) Reduction

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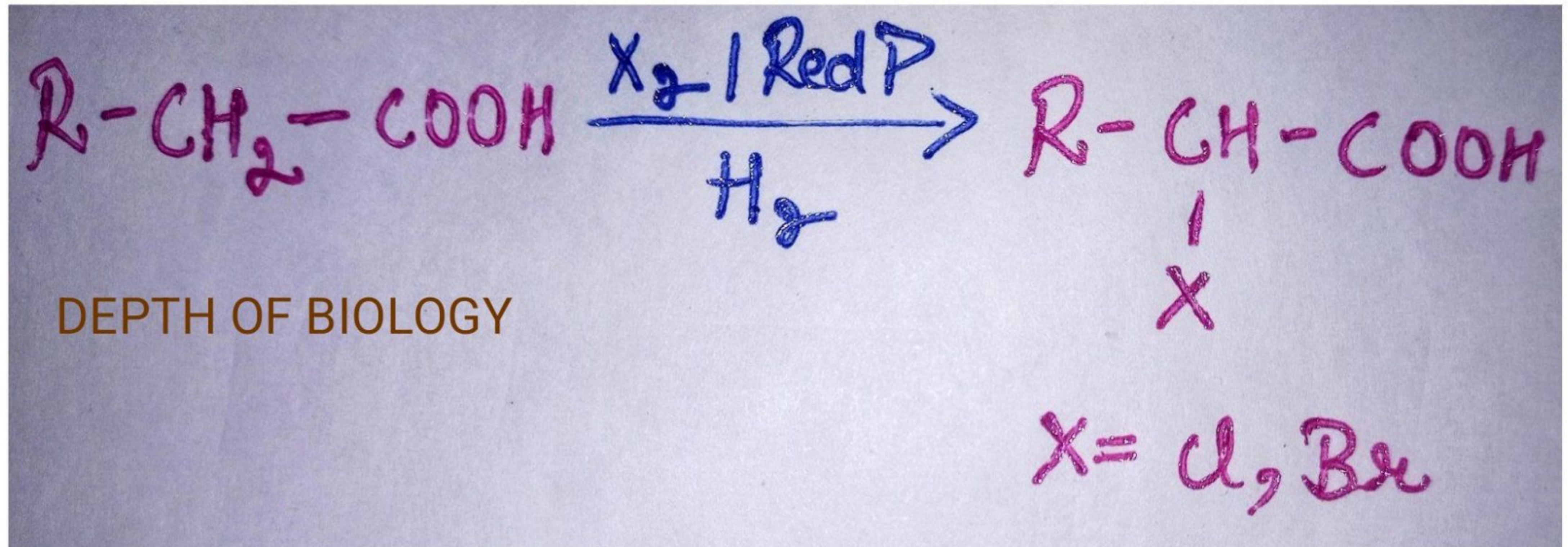


(vi) Decarboxylation (Kolbe's Electrolysis)



(vii) Halogenation (Hellvolhard Zelinsky Reaction)

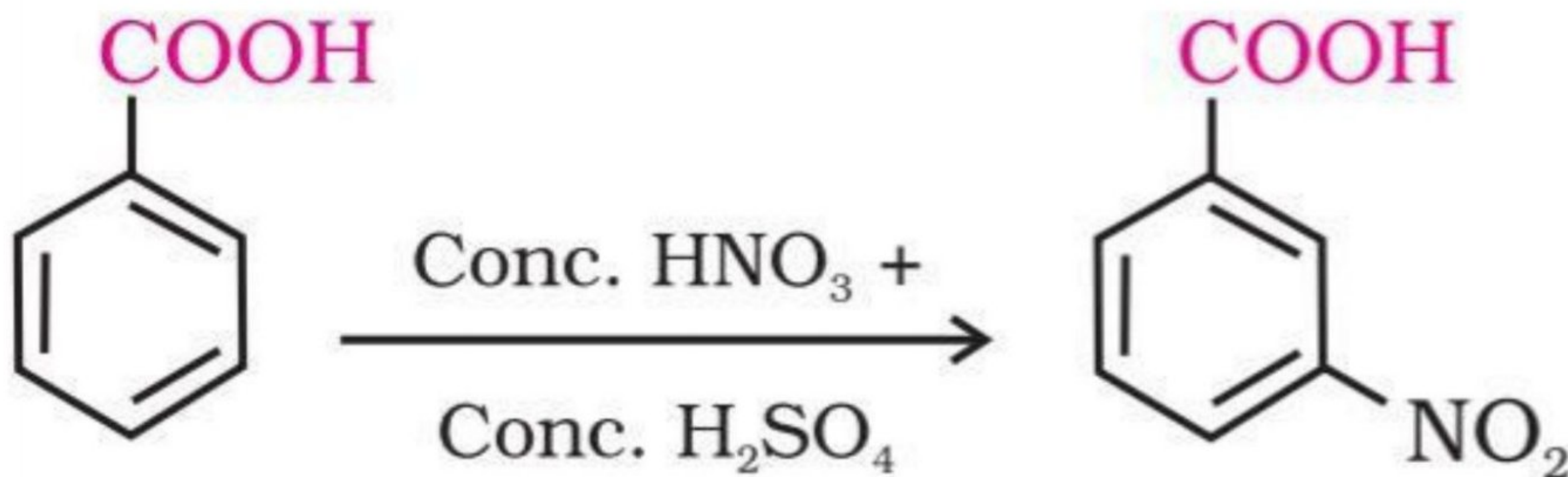
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(viii) Ring Substitution

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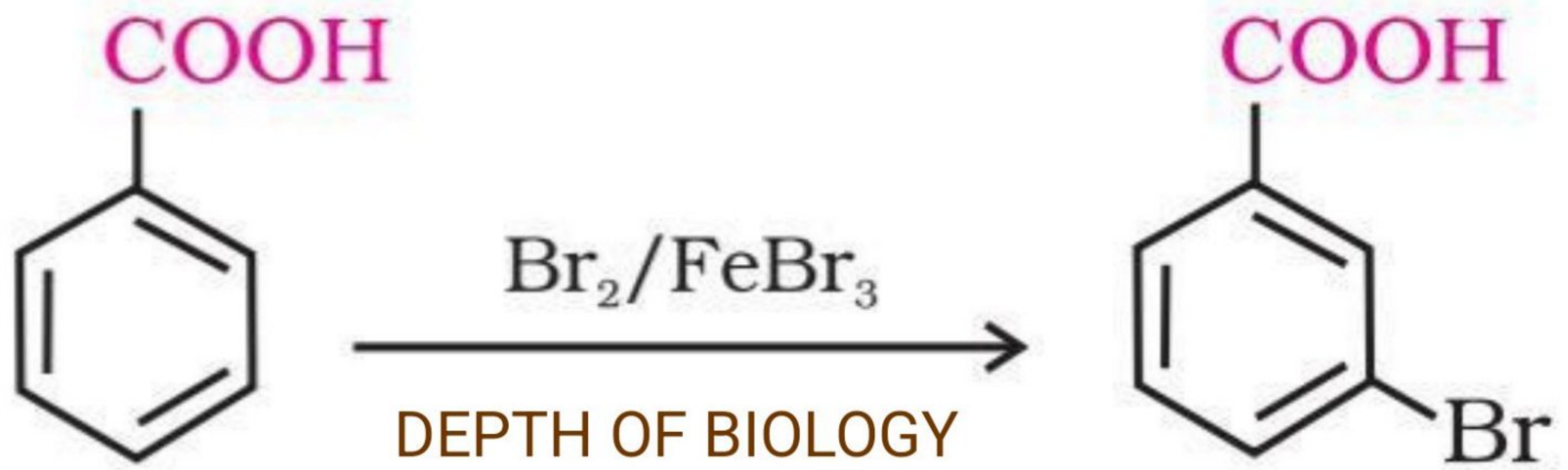
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m-Nitrobenzoic acid

**Aromatic COOH undergo ESR
acts as a deactivating and meta
directing group**

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m-Bromobenzoic acid

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