

Electrolysis in Organic Synthesis - Answer Sheet

6% of total								
Question	9.1	9.2	9.3	9.4	9.5	9.6	9.7	Total
Points	3	3	2	5	5	2	9	29
Score								

9.1 (3 pt)

Provide the structural formulae of **A**, **B**, and **C**.

A

B

C

9.2 (3 pt)

Formulate the oxidative and reductive half reactions and the full redox reaction.

Reductive half reaction:

Oxidative half reaction:

Full redox reaction:

Theory



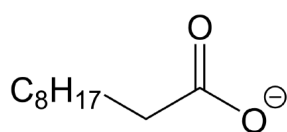
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A9-2

English (Official)

9.3 (2 pt)

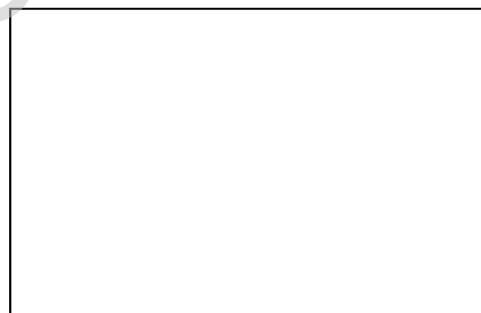
Provide the intermediates in the mechanism for the oxidative decarboxylation and formation of the product.



Oxidation¹ →



↓ -B



A ← Dimerisation²

Translation:

1:

2:

Theory



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A9-3

English (Official)

9.4 (5 pt)

Provide the structures of **D-H**.

D

E

F

G

H

DELEGATION PRINT

Theory



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A9-4

English (Official)

9.5 (5 pt)

Provide the structures for both products **K** and **L**. **Indicate** how the two products are related.

K

L

- Epimer
- Diastereomer
- Enantiomer
- Constitutional Isomer

9.6 (2 pt)

Provide the structure of **N** and **O**.

N

O

Theory



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A9-5

English (Official)

9.7 (9 pt)

Provide the structural formulae of compounds **P**, **Q**, **R**, and **S**. Indicating stereochemistry is not required. *Hint: S* is a tricyclic product.

P

Q

R

S

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