

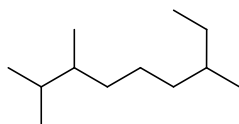
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Your examination begins on the next page.

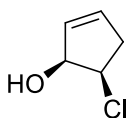
QUESTION 1 [8 marks]

- a) Provide IUPAC names for the following compounds and, where applicable, include *R/S* or *E/Z* designation to indicate the stereochemistry. (4 marks)

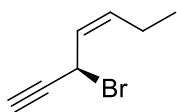
i)



ii)



iii)



iv)



- b) Provide the bond-line structures for each of the following names. (4 marks)

i) *trans*-4-isopropylcyclohexanol

ii) (*Z,R*)-4-methyl-

QUESTION 2 [8 marks]

- a) Given the following trend in proton acidity among the following hydrocarbon compounds:

QUESTION 4 [6

QUESTION 6 [8.5 marks]

a) Answer all questions regarding the reaction shown below:

b) Answer all questions regarding all

QUESTION 7 [8 marks]

(1 mark)

QUESTION 8 [6.5 marks]

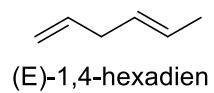
a) The following compound shown below was

QUESTION 10 [9.5 marks]

a) Draw all significant resonance structures for each of the following species using curved-

QUESTION 11 [6 marks]

- a) Which of the following compounds has the higher heat of hydrogenation? Explain. (2 marks)



QUESTION 12 [4 marks]

Draw the major product(s) expected from each of the following reactions.

i)



