ORGANIC CHEMISTRY

ALKANE REACTIONS: HALOGENATION & SUBSTITUTION

Dr. Mioy T. Huynh | Yale University
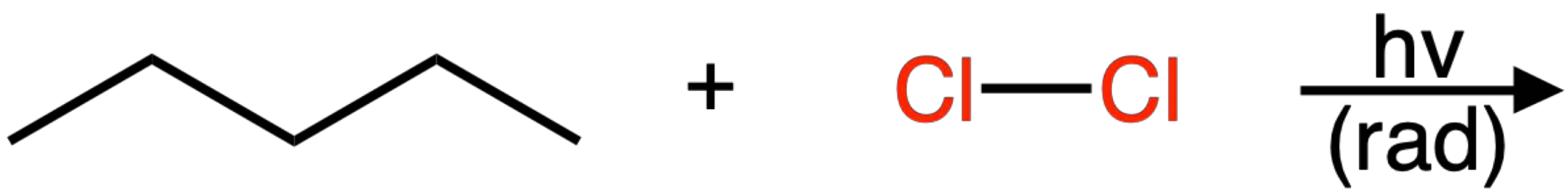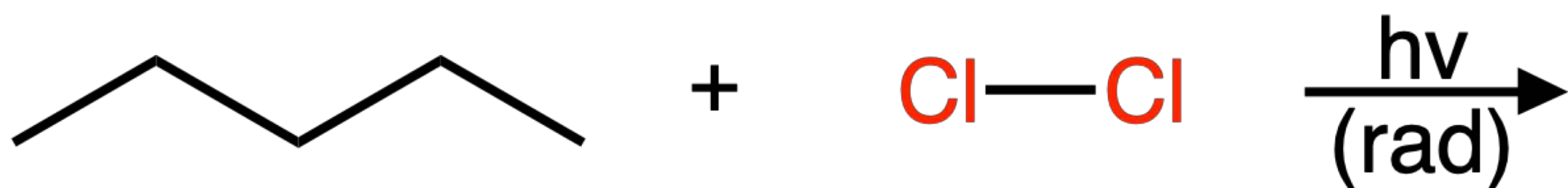
Chemistry 165b | Spring 2019

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PRACTICE PROBLEM 1

What are the unique products for the radical halogenation of pentane with Cl_2 and UV radiation.

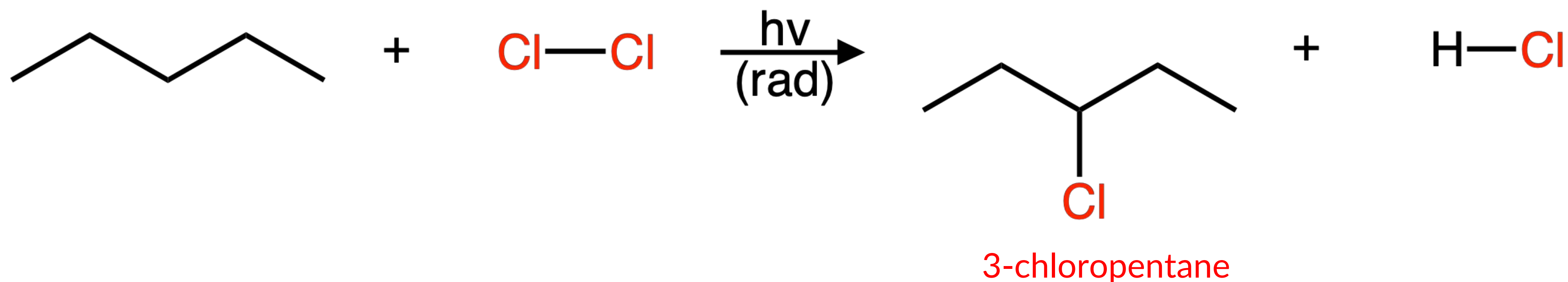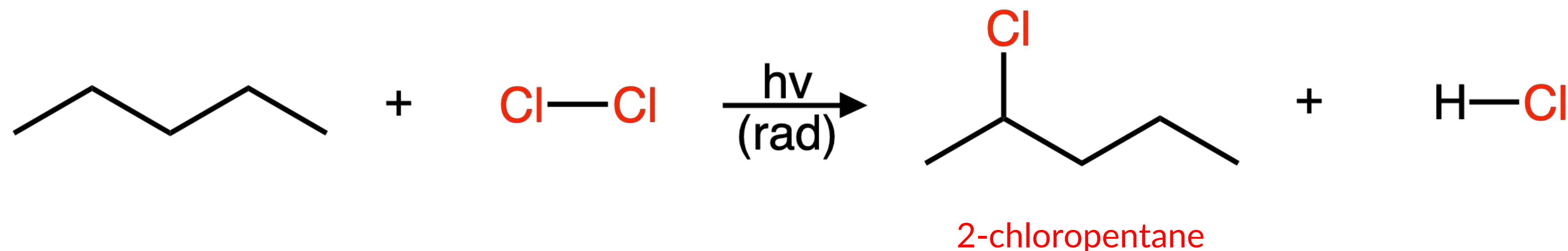# PRACTICE PROBLEM 1

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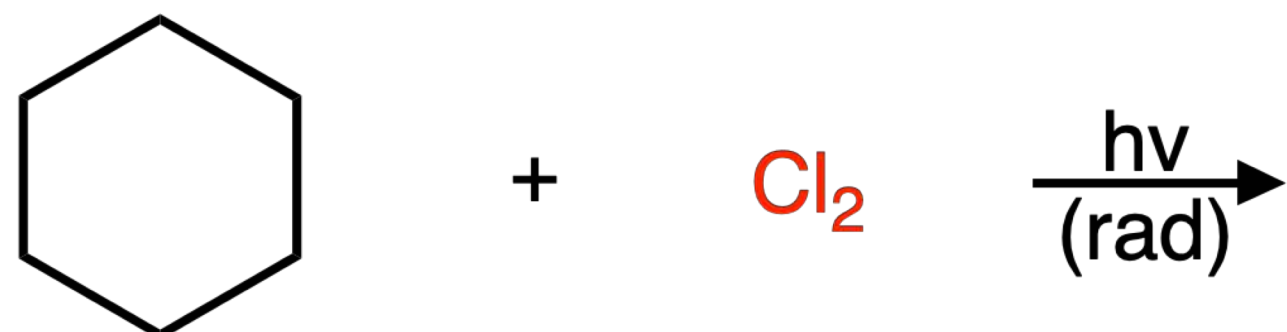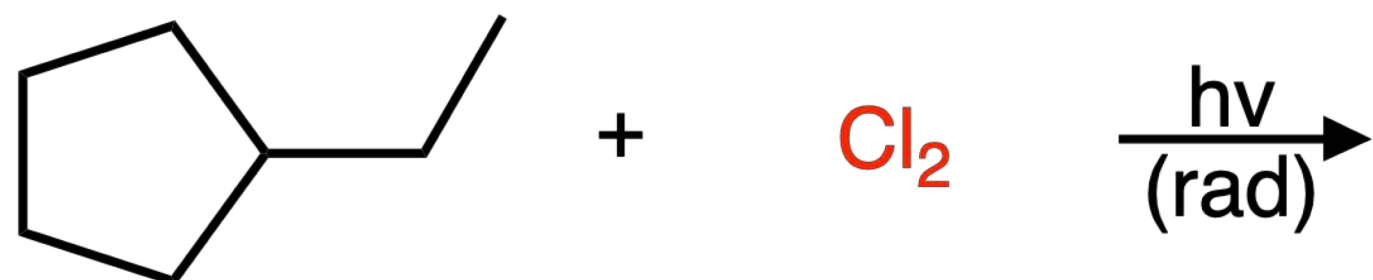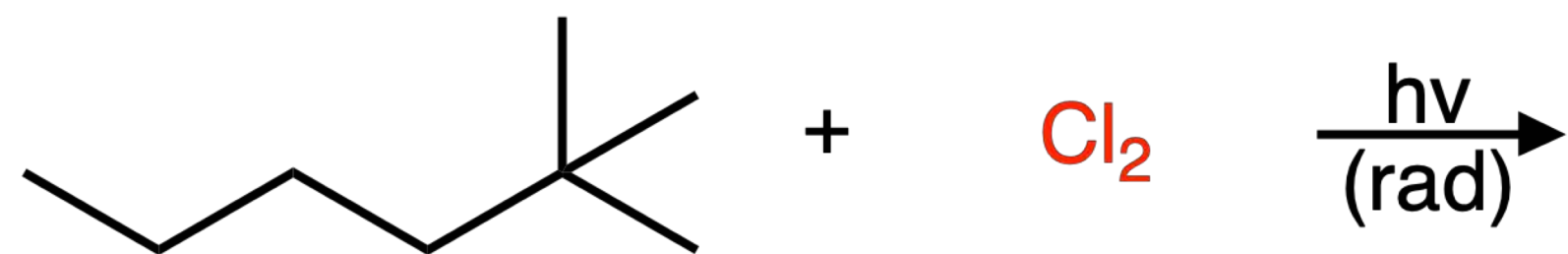
— answer —

2-chloropentane

3-chloropentane

Q: Which of the two products of the reaction above contains a chiral center?

A: 2-chloropentane because C2 is chiral.

PRACTICE PROBLEM 2

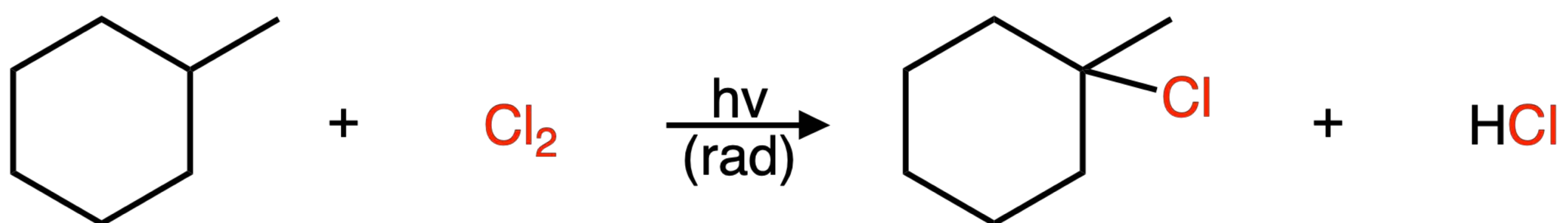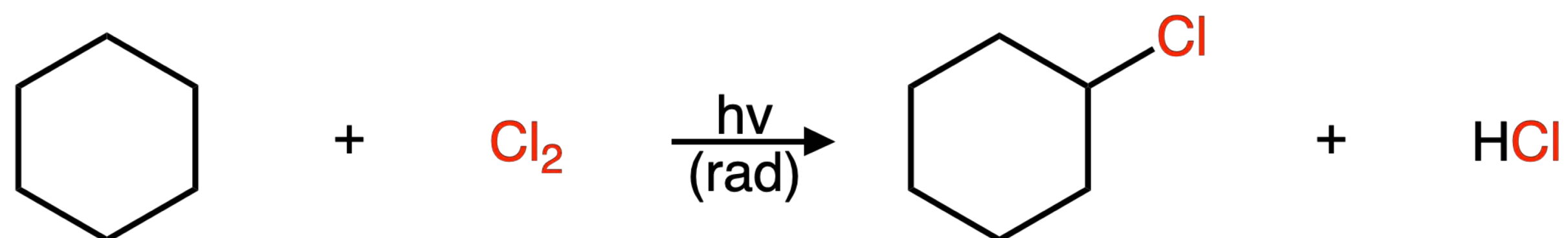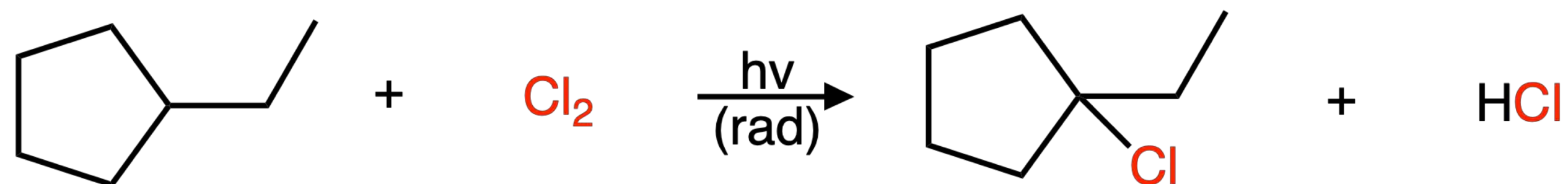Give the product(s) for the following alkane radical halogenation reactions.

– answer –

+ Cl$_2$ $\xrightarrow[\text{(rad)}]{\text{hv}}$

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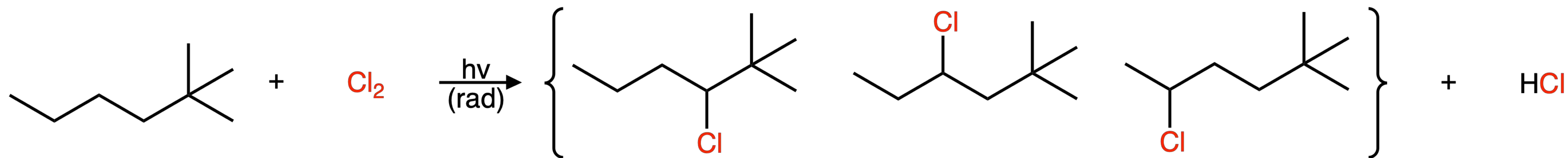Give the product(s) for the following alkane radical halogenation reactions.
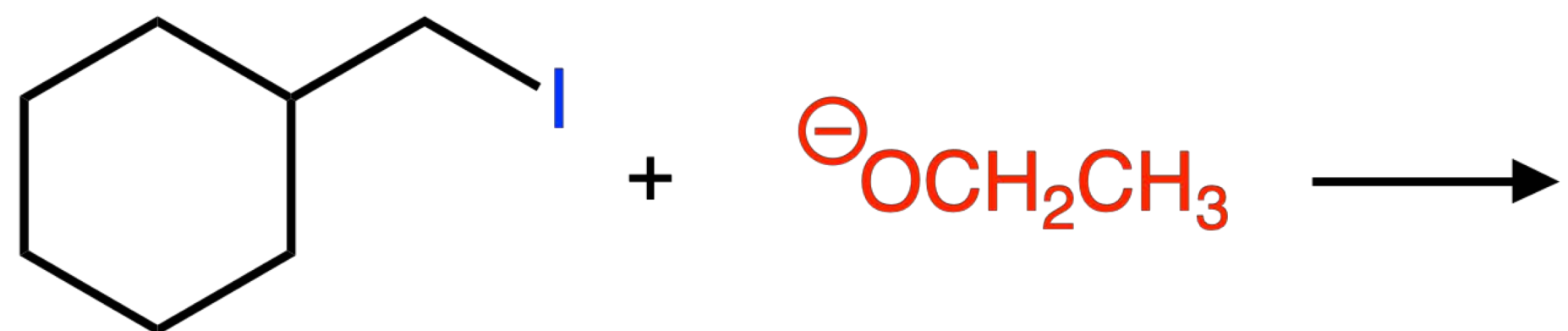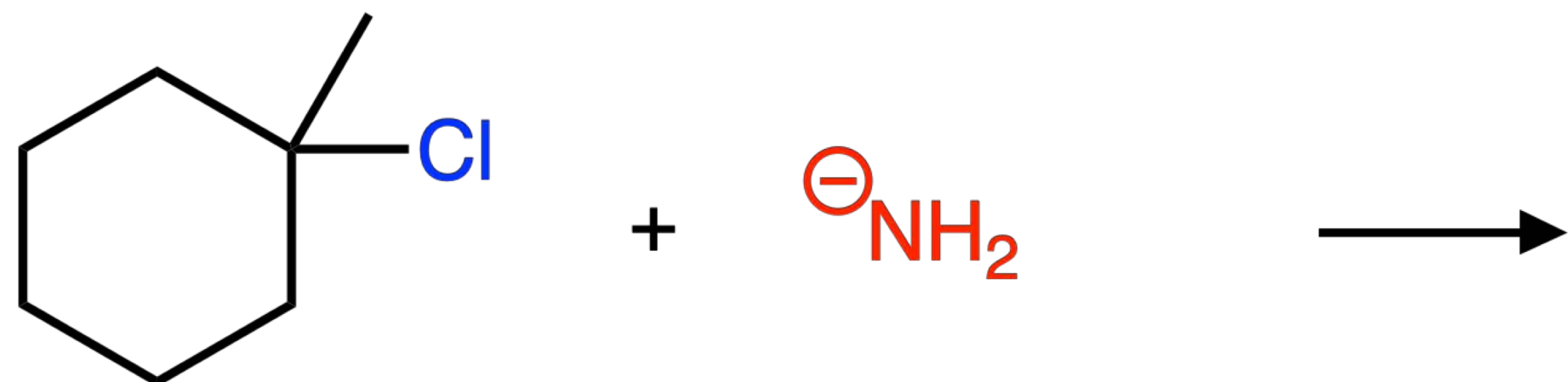
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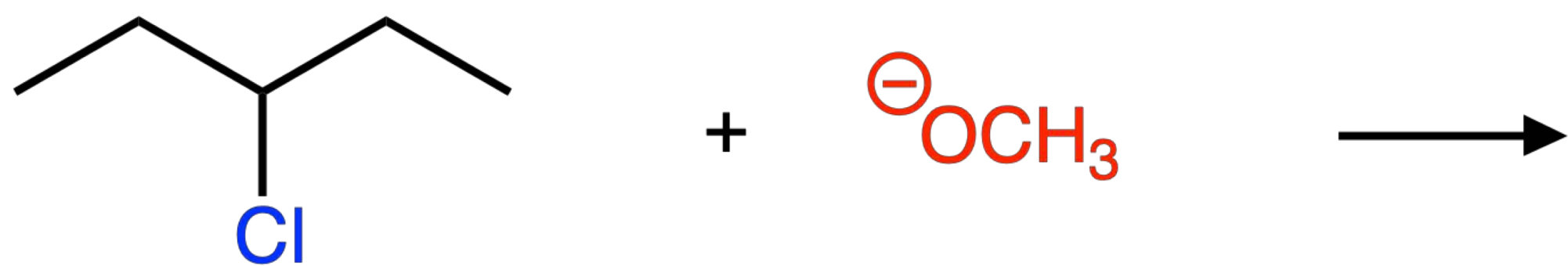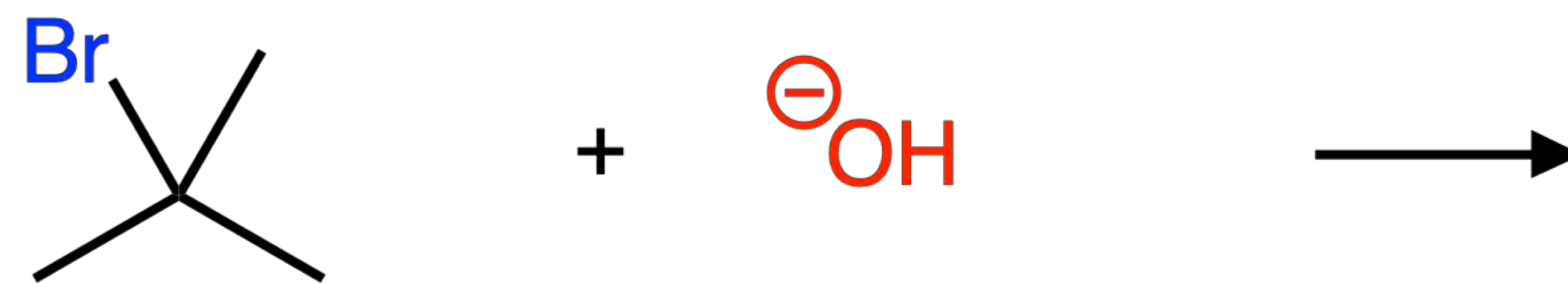
PRACTICE PROBLEM 3

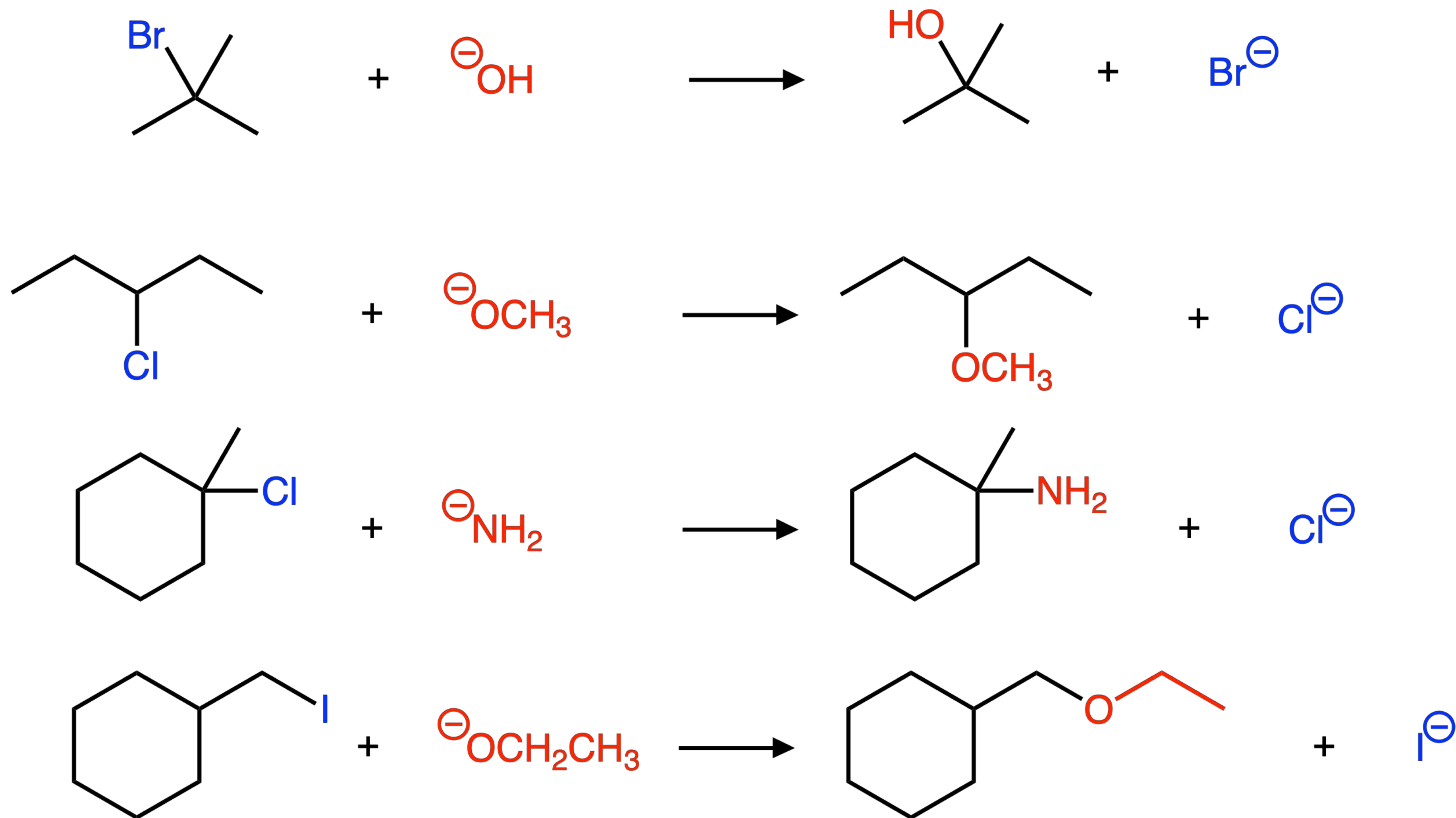Give the products for the following nucleophilic substitution reactions.

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– answer –

PRACTICE PROBLEM 4

Fill in the red blank squares with the correct reagents or products to make 2-methylhexan-2-ol from 2-methylhexane.

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— answer —