A compound with the formula $C_{11}H_{20}$ is found to decolorize bromine in carbon tetrachloride. Following treatment of one mole with ozone and dimethylsulfide, the following products were obtained:

$$(CH_3)_2$$
-C=O (2 moles)

What is the structure of the compound? Explain your reasoning.

Multiple Choice

Please write your response on the line next to the question.

1. In which species does the carbon atom have a share in 7 valence electrons?

. 2. The most acceptable Lewis structure for CO is

3. What are the hybridizations for the atoms a, b, and c (in that order) for

$$\begin{array}{cccc} a & b & c \\ \downarrow & \downarrow & \checkmark \\ \text{CH}_2 = \text{C} = \text{CH-C} \equiv \text{C-H} \end{array}$$

A.
$$sp^2$$
, sp^2 , sp

$$3. \text{ sp}^2 \text{ sp}^2 \text{ sp}^2$$

D. sp,
$$sp^2 sp^2$$