19/MHS01139f

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1. ① $CH_2 = C(OH)HCHO \Rightarrow$ ~~alkene~~, OH, COH

② $C_6H_5CH(NH_2)COCH_3 \Rightarrow NH_2$, $-C=O$

③ $CH_3C = CHCH(COH)CHO \Rightarrow OH$, $-\overset{O}{\overset{\|}{C}}-H$

2. mass = ~~0.856g~~ 0.856g, volume = $10cm^3$

pathlength = 1.0 dm observed rotation = $1°$

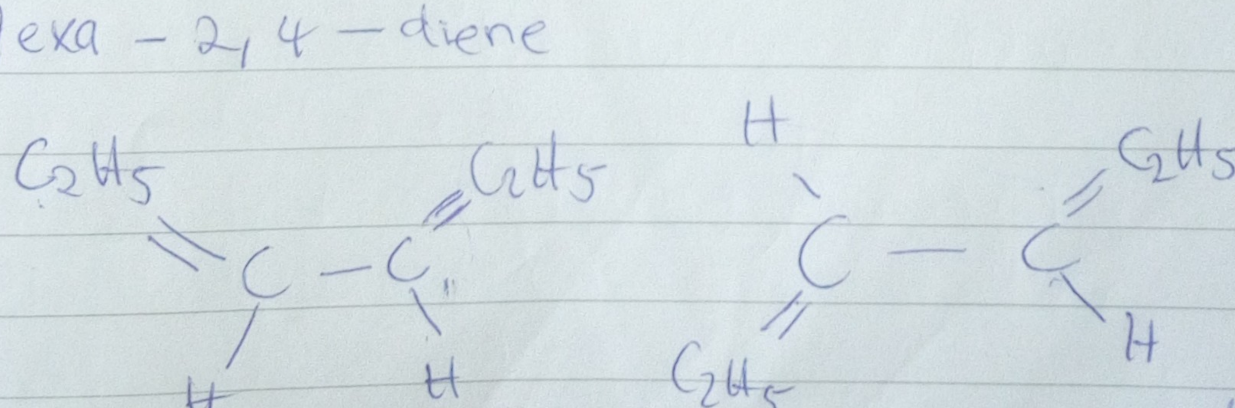
$$\text{Specific rotation} = \frac{\text{observed rotation } (°)}{(\text{concentration } g/cm^3) \times \text{path length of sample cell in dm}}$$

$$= \frac{+1}{\left(\text{conc} = \frac{0.856}{10}\right)(1dm)} = \frac{1}{0.0856}$$

$= \cancel{+}11.628 g^{-1}cm^3dm^{-1}$

$= +11.68 g^{-1}cm^3dm^{-1}$

3. Hexa-2,4-diene



Trans, Hex-2,4-diene

Cis Hex-2,4-diene

(ii) 2,3,- Dimethyl but-2-ene

not possible