A ketone A which undergoes haloform reaction gives compound B on reduction. B on heating with sulphuric acid gives compound C, which forms mono-ozonide D. The compound D on hydrolysis in presence of zinc dust gives only acetaldehyde . Write the structures and IUPAC names of A, B and C Write down the reactions involved.

$$A = CH_3 - \frac{O}{C} - CH_2 - CH_3, \quad B = CH_3 - \frac{OH}{CH} - CH_2 - CH_3, \quad C = CH_3 - CH == CH - CH_3$$

$$CH_3 - \frac{O}{C} - CH_2 - CH_3 \xrightarrow{\text{LiAlH}_4} CH_3 - CH - CH_2 - CH_3 \xrightarrow{\text{H}_2SO_4 (conc.)} CH_3 - CH = CH - CH_3$$

$$(A) \qquad (B) \qquad (C) + O_3 \xrightarrow{\text{LiAlH}_4} CH_3 - CH_2 - CH_3 \xrightarrow{\text{H}_2O/Zn} H_3C - HC \xrightarrow{\text{CH}_2CH} CH_3$$

$$2CH_3 - C - H \xrightarrow{\text{H}_2O/Zn} H_3C - HC \xrightarrow{\text{CH}_2CH} CH_3$$

$$2CH_3 - C - H \xrightarrow{\text{CH}_2O/Zn} H_3C - HC \xrightarrow{\text{CH}_2OH} CH_3$$

$$2CH_3 - C - H \xrightarrow{\text{CH}_2O/Zn} H_3C - HC \xrightarrow{\text{CH}_2OH} CH_3$$

$$2CH_3 - C - H \xrightarrow{\text{CH}_2O/Zn} H_3C - HC \xrightarrow{\text{CH}_2OH} CH_3$$