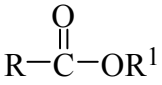
VIII.H ESTERS RCO_2R^1

Esters are named as 2 words: Alkyl ...oate. The procedure for naming them is shown below.

Procedure for Naming Esters



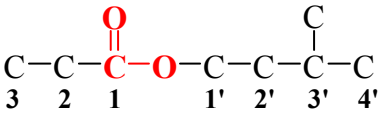
1. **Name the alkyl group R^1 as the first word**. The carbon bonded to the oxygen is C-1.
2. **Name the RC=O unit like a carboxylic acid, changing the ic acid ending to -oate**.
3. **Name the ester as alkyl (word 1) ....oate (word 2)**.

Examples

1. Give the IUPAC name for $CH_3CH_2CO_2CH_2CH_2CH(CH_3)_2$

OBSERVATIONS

Redraw the structure $CH_3CH_2CO_2CH_2CH_2CH(CH_3)_2$ ⇒



Fill out the template

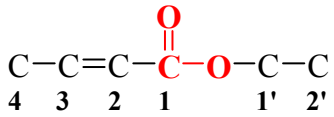
OBSERVATION	IMPLICATION
Parent Group and Site	Ester at C-1	...oate
Longest Carbon Chain/Ring	Acyl chain, RC=O 3 carbons O-alkyl chain 4 carbons	prop....oate ... butyl
# C=C or C≡C bonds and Site	None on either chain	...butyl ...propanoate
Final Word		propanoate
Substituents and Sites	None on acyl chain Methyl at C-3 on O-alkyl	 3-methylbutyl
Alphabetizing substituents		3-methylbutyl

SOLUTION Compound is 3-methylbutyl propanoate

2. Give the IUPAC name for $CH_3CH{=}CHCO_2CH_2CH_3$

OBSERVATIONS

$CH_3CH{=}CHCO_2CH_2CH_3$ ⇒



Parent Functional Group(s): Ester ⇒ -oate

Chain attached to C-**O**: CH_3CH_2- ⇒ ethyl

Carboxylate component (R-C=O): $CH_3CH{=}CHCO_2$ ⇒ 2-butenoate

SOLUTION Compound is ethyl 2-butenoate