Properties of fatty acids

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Saturated

Common name	Systematic name	Molecular formula	Molar mass. g/mol	Melting point. °C
Butyric acid	Butanoic acid	$C_4H_8O_2$	88.11	-7.9
Valeric acid	Pentanoic acid	$C_5H_{10}O_2$	102.13	-34.5
Isovaleric acid	3-Methylbutanoic acid	$C_5H_{10}O_2$	102.13	-29.3
Caproic acid	Hexanoic acid	$C_6H_{12}O_2$	116.16	-3.4
Enanthic acid	Heptanoic acid	$C_7H_{14}O_2$	130.18	-7.5
Caprylic acid	Octanoic acid	$C_8H_{16}O_2$	144.21	16.7
Pelargonic acid	Nonanoic acid	$C_9H_{18}O_2$	158.24	12.3
Capric acid	Decanoic acid	$C_{10}H_{20}O_2$	172.27	31.9
Lauric acid	Dodecanoic acid	$C_{12}H_{24}O_2$	200.32	43.2
Tridecylic acid	Tridecanoic acid	$C_{13}H_{26}O_2$	214.35	41.5
Myristic acid	Tetradecanoic acid	$C_{14}H_{28}O_2$	228.38	53.9
Pentadecylic acid	Pentadecanoic acid	$C_{15}H_{30}O_2$	242.40	52.3
Palmitic acid	Hexadecanoic acid	$C_{16}H_{32}O_2$	256.43	63.1
Margaric acid	Heptadecanoic acid	$C_{17}H_{34}O_2$	270.46	61.3
Stearic acid	Octadecanoic acid	$C_{18}H_{36}O_2$	284.48	69.6
Arachidic acid	Eicosanoic acid	$C_{20}H_{40}O_2$	312.54	76.5
Phytanic acid	3,7,11,15-Tetramethylhexadecanoic acid	$C_{20}H_{40}O_2$	312.54	-65.0
Behenic acid	Docosanoic acid	$C_{22}H_{44}O_2$	340.59	81.5
Lignoceric acid	Tetracosanoic acid	$C_{24}H_{48}O_2$	368.64	87.5
Cerotic acid	Hexacosanoic acid	$C_{26}H_{52}O_2$	396.70	88.5
Montanic acid	Octacosanoic acid	$C_{28}H_{56}O_2$	424.75	90.9

Monounsaturated

Common name	Systematic name	Molecular formula	Molar mass. g/mol	Melting point. °C
Caproleic acid	9-Decenoic acid	$C_{10}H_{18}O_2$	170.25	26.5
Myristoleic acid	9-*cis*-Tetradecenoic acid	$C_{14}H_{26}O_2$	226.36	?
Palmitoleic acid	*cis*-9-Hexadecenoic acid	$C_{16}H_{30}O_2$	254.41	-0.1
Oleic acid	*cis*-9-Octadecenoic acid	$C_{18}H_{34}O_2$	282.47	13.4
Elaidic acid	*trans*-9-Octadecenoic acid	$C_{18}H_{34}O_2$	282.47	45.0
Vaccenic acid	*trans*-11-Octadecenoic acid	$C_{18}H_{34}O_2$	282.47	44.0
Erucic acid	*cis*-13-Docosenoic acid	$C_{22}H_{42}O_2$	338.57	34.7
Brassidic acid	*trans*-13-Docosenoic acid	$C_{22}H_{42}O_2$	338.57	61.9
Nervonic acid	*cis*-15-Tetracosenoic acid	$C_{24}H_{46}O_2$	366.63	43.0

Diunsaturated

Common name	Systematic name	Molecular formula	Molar mass. g/mol	Melting point. °C
Linoleic acid	*cis,cis*-9,12-Octadecadienoic acid	$C_{18}H_{32}O_2$	280.45	-120

Triunsaturated

Common name	Systematic name	Molecular formula	Molar mass. g/mol	Melting point. °C
cis-Eleostearic acid	*trans,cis,trans*-9,11,13-Octadecatrienoic acid	$C_{18}H_{30}O_2$	278.44	49.0
trans-Eleostearic acid	*trans,trans,trans*-9,11,13- Octadecatrienoic acid	$C_{18}H_{30}O_2$	278.44	71.5
Linolenic acid	*cis,cis,cis*-9,12,15-Octadecatrienoic acid	$C_{18}H_{30}O_2$	278.44	-11.0

Tetraunsaturated

Common name	Systematic name	Molecular formula	Molar mass. g/mol	Melting point. °C
Arachidonic acid	*all-cis*-5,8,11,14-Eicosatetraenoic acid	$C_{20}H_{32}O_2$	304.47	-49.5

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