



Table S1. Odor thresholds and sensory descriptors of aldehydes in olive oil. Adapted from [21].

Compound	Chemical formula	Chemical structure	Sensory descriptor	Odour threshold ( $\mu\text{g}/\text{kg}$ oil)	Ref.
Acetaldehyde	$\text{C}_2\text{H}_4\text{O}$		Pungent, sweet	0.22	[36]
3-methylbutanal	$\text{C}_5\text{H}_{10}\text{O}$		Malty	5.4	[36]
2-methylbutanal	$\text{C}_5\text{H}_{10}\text{O}$		Malty	5.2	[36]
Pentanal	$\text{C}_5\text{H}_{10}\text{O}$		Woody, bitter, oily	240	[107]
trans-2-pentenal	$\text{C}_5\text{H}_8\text{O}$		Green, apple	300	[107]
			Green, bitter almond	300	[108]
Hexanal	$\text{C}_6\text{H}_{12}\text{O}$		Green, sweet	75	[108]
			Green apple, grassy	80	[107]
			Green	300	[36]
cis-3-hexenal	$\text{C}_6\text{H}_{10}\text{O}$		Green	3	[108]
			Leaf-like	1.7	[36]
trans-2-hexenal	$\text{C}_6\text{H}_{10}\text{O}$		Green, apple-like	424	[36]
			Bitter almonds, Green	420	[107]
			Green astringent	1125	[108]
Heptanal	$\text{C}_7\text{H}_{14}\text{O}$		Oily, fatty, woody	500	[107]
trans-2-heptenal	$\text{C}_7\text{H}_{12}\text{O}$		Oxidized, tallowy, pungent	5	[107]
2,4-heptadienal	$\text{C}_7\text{H}_{10}\text{O}$		Fatty, rancid	3620	[107]
Octanal	$\text{C}_8\text{H}_{16}\text{O}$		Fatty, sharp	320	[107]
			Citrus-like	56	[36]
trans-2-octenal	$\text{C}_8\text{H}_{14}\text{O}$		Herbaceous, spicy	4	[107]
Nonanal	$\text{C}_9\text{H}_{18}\text{O}$		Fatty, waxy, pungent	150	[107]
trans,trans-2,4-nonadienal	$\text{C}_9\text{H}_{14}\text{O}$		Soapy, penetrating;	2500	[107]
			Deep-fried	2500	[36]
cis-2-nonenal	$\text{C}_9\text{H}_{16}\text{O}$		Green, fatty	4.5	[36]
trans-2-nonenal	$\text{C}_9\text{H}_{16}\text{O}$		Paper-like, fatty	900	[36]
Decanal	$\text{C}_{10}\text{H}_{20}\text{O}$		Penetrating, sweet, waxy	650	[107]
			Painty, fishy, fatty	10	[107]
trans-2-decenal	$\text{C}_{10}\text{H}_{18}\text{O}$		Soapy, fatty	563	[28]
			Strong, fatty	2150	[107]
trans,trans-2,4-decadienal	$\text{C}_{10}\text{H}_{16}\text{O}$		Deep-fried	180	[36]
			Deep-fried	10	[36]
trans,cis-2,4-decadienal	$\text{C}_{10}\text{H}_{16}\text{O}$		Deep-fried	10	[36]
trans-4,5-epoxy-trans-2-decanal	$\text{C}_{10}\text{H}_{18}\text{O}_2$		Metallic	1.3	[36]

Table S2. Odor thresholds and sensory descriptors of alcohols in olive oil. Adapted from [21].



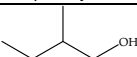
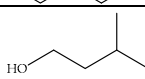
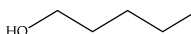
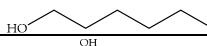
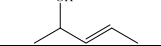
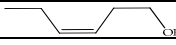
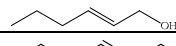
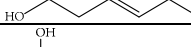
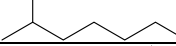
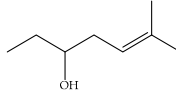
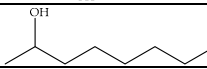
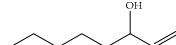
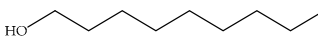
Compound	Chemical formula	Chemical structure	Sensory descriptor	Odour threshold ( $\mu\text{g}/\text{kg}$ oil)	Ref.
Ethanol	$\text{C}_2\text{H}_6\text{O}$		Alcohol	30000	[107]
Butan-2-ol	$\text{C}_4\text{H}_{10}\text{O}$		Winey	150	[107]
2-methylbutan-1-ol	$\text{C}_5\text{H}_{12}\text{O}$		Winey, spicy	480	[107]
3-methylbutan-1-ol	$\text{C}_5\text{H}_{12}\text{O}$		Woody, whiskey, sweet	100	[107]
Pentanol	$\text{C}_5\text{H}_{12}\text{O}$		Fruity Strong, sticky, balsamic	470 3000	[108] [107]
3-penten-2-ol	$\text{C}_5\text{H}_{10}\text{O}$		Perfumery, woody	400	[107]
Hexanol	$\text{C}_6\text{H}_{14}\text{O}$		Undesirable	400	[108]
trans-2-hexen-1-ol	$\text{C}_6\text{H}_{12}\text{O}$		Green grass, leaves	5000	[107]
trans-3-hexen-1-ol	$\text{C}_6\text{H}_{12}\text{O}$		Green	1500	[107]
cis-3-hexenol	$\text{C}_6\text{H}_{12}\text{O}$		Green	6000	[108]
Heptan-2-ol	$\text{C}_7\text{H}_{16}\text{O}$		Earthy, sweet	10	[107]
6-Methyl-5-hepten-3-ol	$\text{C}_8\text{H}_{16}\text{O}$		Perfumery, nutty	2000	[107]
Octan-2-ol	$\text{C}_8\text{H}_{18}\text{O}$		Earthy, fatty	100	[107]
Octen-3-ol	$\text{C}_8\text{H}_{16}\text{O}$		Mouldy, earthy	1	[107]
Nonanol	$\text{C}_9\text{H}_{20}\text{O}$		Fatty Rancid	280 13500	[107] [108]



Table S3. Odor thresholds and sensory descriptors of esters and ketones in olive oil. Adapted from [21].




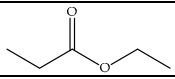
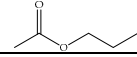
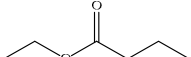
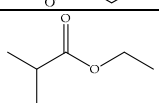
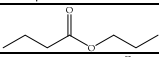
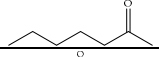
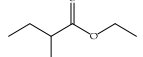
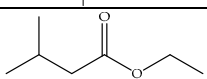
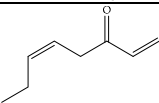
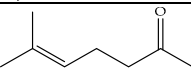
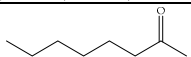
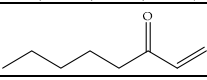
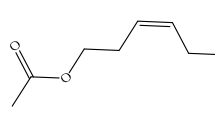
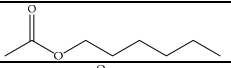
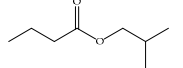
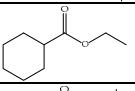
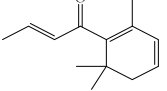
Compound	Chemical formula	Chemical structure	Sensory descriptor	Odour threshold ( $\mu\text{g}/\text{kg}$ oil)	Ref.
Ethyl acetate	$\text{C}_4\text{H}_8\text{O}_2$		Sticky, sweet	940	[107]
Butan-2-one	$\text{C}_4\text{H}_8\text{O}$		Ethereal, fruity	40000	[107]
1-Penten-3-one	$\text{C}_5\text{H}_8\text{O}$		Green Green, pungent	50 0.73	[108] [36]
Ethyl propanoate	$\text{C}_5\text{H}_{10}\text{O}_2$		Fruit, strong	100	[107]
Butyl acetate	$\text{C}_6\text{H}_{12}\text{O}_2$		Green, fruity, pungent	300	[107]
Ethyl butanoate	$\text{C}_6\text{H}_{12}\text{O}_2$		Sweet, fruity	30	[107]
Ethyl isobutyrate	$\text{C}_6\text{H}_{12}\text{O}_2$		Fruity	1.2	[36]
Propyl butanoate	$\text{C}_7\text{H}_{14}\text{O}_2$		Pineapple, sharp	150	[107]
Heptan-2-one	$\text{C}_7\text{H}_{14}\text{O}$		Sweet, fruity	300	[107]
Ethyl 2-methylbutyrate	$\text{C}_7\text{H}_{14}\text{O}_2$		Fruity	0.72	[36]
Ethyl 3-methylbutyrate	$\text{C}_7\text{H}_{14}\text{O}_2$		Fruity	0.62	[36]
cis-1,5-Octadien-3-one	$\text{C}_8\text{H}_{12}\text{O}$		Geranium-like, mould	0.45	[36]
6-Methyl-5-hepten-2-one	$\text{C}_8\text{H}_{14}\text{O}$		Pungent, green	1000	[107]
Octan-2-one	$\text{C}_8\text{H}_{16}\text{O}$		Mould, green	510	[107]
Octen-3-one	$\text{C}_8\text{H}_{14}\text{O}$		Mushroom, mould, pungent	10	[107]
cis-3-hexenyl acetate	$\text{C}_8\text{H}_{14}\text{O}_2$		Green Banana-like	750 200	[108] [36]
Hexyl acetate	$\text{C}_8\text{H}_{16}\text{O}_2$		Green, fruity, sweet	1040	[108]
2-methylpropyl butanoate	$\text{C}_8\text{H}_{16}\text{O}_2$		Unpleasant, winey, fusty	100	[107]
Ethyl cyclohexylcarboxylate	$\text{C}_9\text{H}_{16}\text{O}_2$		Aromatic, fruity	0.16	[36]
trans- $\beta$ -Damascenone	$\text{C}_{13}\text{H}_{18}\text{O}$		Boiled apple-like	11	[36]



Table S4. Odor thresholds and sensory descriptors of carboxylic acids and other compounds present in olive oil. Adapted from [21].

Compound	Chemical formula	Chemical structure	Sensory descriptor	Odour threshold ( $\mu\text{g}/\text{kg}$ oil)	Ref.
Acetic acid	$\text{C}_2\text{H}_4\text{O}_2$		Sour, vinegary	500	[107]
Propanoic acid	$\text{C}_3\text{H}_6\text{O}_2$		Pungent, sour	720	[107]
Butanoic acid	$\text{C}_4\text{H}_8\text{O}_2$		Rancid, cheese	650	[107]
3-Methylbutyric acid	$\text{C}_5\text{H}_{10}\text{O}_2$		Sweaty	22	[36]
Pentanoic acid	$\text{C}_5\text{H}_{10}\text{O}_2$		Unpleasant, pungent	600	[107]
Hexanoic acid	$\text{C}_6\text{H}_{12}\text{O}_2$		Pungent, rancid	700	[107]
4-Methoxy-2-methyl-2-butanethiol	$\text{C}_6\text{H}_{14}\text{OS}$		Black currant-like, catty	0.017	[36]
Guaiacol	$\text{C}_7\text{H}_8\text{O}_2$		Phenolic, burnt Soapy, olive paste	16 24.1	[36] [28]
Heptanoic acid	$\text{C}_7\text{H}_{14}\text{O}_2$		Rancid, fatty	100	[107]
Octanoic acid	$\text{C}_8\text{H}_{16}\text{O}_2$		Oily, fatty	3000	[107]
Octane	$\text{C}_8\text{H}_{18}$		Sweety, alcane	940	[107]