TABLE X. ORGANIC DERIVATIVES OF KETONES

a) Liquids 1) (Listed in order of increasing atmospheric b.p.)* (Continued)

No.	Name	Boiling point, °C	Melting point, °C	n_D^{20}	D_4^{20}	Semi-carbazone	2,4-Di-nitrophenyl-hydrazone	*p*-Nitro-phenyl-hydrazone	Phenyl-hydrazone	Oxime	Miscellaneous
149	***d*-Fenchone**	195–6	.....	1.46355[18]	0.947[19]	184; 172	140	.....	b.p. 202–3[18]	*d* or *l*: $\alpha+$: 165; $\beta+$: 123; *d,l*: $\alpha+$: 159; $\beta+$: 129	Hydrazone, 56–7
150	**2-Nonanone** (*n*-Heptyl methyl ketone)	195.3	−8	1.42072	0.82133; 0.82217	118–9, al.	.....	.....	.....	.....	.....
151	**1-Acetyl-4-methylcyclohexanone**	195–7	.....	1.4509[18]	.....	α: 159, me. al.; β: 175	.....	.....	.....	57–9	.....
152	**Methyl levulinate**	196.0	.....	1.42333	1.04945	143	142, al.	.....	96; 105, al.	.....	.....
153	**4-Fluoroacetophenone**	196	.....	1.5081[25]	.....	219	.....	.....	.....	.....	.....
154	***d,l*-2-Ethyl-5-methylcyclo-hexanone**	197	.....	1.4485	.....	178–81	.....	.....	.....	80, w.-al.	.....
155	**1-Acetyl-2-methylcyclohexanone**	197–200	.....	.....	.....	172–3	.....	.....	.....	.....	.....
156	**2-*n*-Propylcyclohexanone**	198–9[748]	.....	1.4558[13]	.....	133d., w.-al.	.....	.....	.....	67–8	.....
157	**1-Acetylcyclohexene**	200	.....	1.4892	.....	220	.....	.....	.....	59	.....
158	**3-(Trifluoromethyl)acetophenone**	202	.....	.....	.....	.....	.....	.....	.....	.....	.....
159	**β-Thujone**	202; 76[10]	.....	.....	.....	174	114	.....	.....	.....	.....
160	**Acetophenone** (Methyl phenyl ketone)	205; 202	20	1.541; 1.5339	1.02810	198–9 (cor.), 50% al.; 203	238–40, al.; 249–50, or.-red., ac. a.	184–5, or.-red	105, wh., al., → dk.	60	.....
161	**2-Ethyl-4-methylcyclohexanone**	205[747]	.....	1.4452	.....	.....	.....	.....	.....	.....	.....
162	**Ethyl levulinate**	206	.....	1.42288	1.01114	148	102	.....	104	.....	.....
163	**4-Decanone**	206–7	.....	.....	.....	51–2	.....	.....	.....	.....	.....
164	**1,5-Dimethylcyclohexen-3-one**	208–9	.....	1.4819[22]	.....	179–80, yel., al.; 168–71	.....	.....	76–8	.....	Thiosemicar-bazone, 195d.
165	**/-Menthone**	209; 207	−6.6	1.4505	.....	189; 187; 184	146, or., al.	.....	53	59, eth.	.....
166	**2-Decanone** (Methyl *n*-octyl ketone)	211; 215.5	14; f.p. 3.1	1.42523	0.82370	124; 126, pet. eth.	.....	.....	.....	.....	.....
167	**Methyl 4-pyridyl ketone**	212	.....	.....	.....	.....	.....	.....	.....	142	.....
168	**4-*n*-Propylcyclohexanone**	212[740]	.....	1.4514[25]	.....	180	.....	.....	.....	.....	.....
169	**2-Acetylthiophene** (Methyl 2-thienyl ketone)	213	10.5	1.5666	.....	190, bz.	.....	181	96	81	.....
170	**2-Methylacetophenone** (Methyl 2-tolyl ketone)	214; 216	.....	1.5320	.....	205, al.; 210	159, yel., al; 161	.....	.....	61	.....
171	**6-Bromo-2-hexanone**	214[720]	.....	1.4713	.....	.....	81	.....	.....	.....	.....
172	**1,5,5-Trimethylcyclohexen-3-one** (Isophorone)	215	.....	1.4789[21.5]	0.9255[20.5]	199.5d., al.; 191	.....	.....	68, dil. al.	79.5, pet. eth.; 76	.....
173	***n*-Propyl 2-pyridyl ketone**	217–8	.....	.....	.....	.....	—	.....	82	48	Picrate, 75
174	**Propiophenone** (Ethyl phenyl ketone)	218; 220	20; 18.6	1.5270	1.0105	173–4 (cor.), al.; 182, rapid htng.	190–1, red, bz.; 189	.....	.....	54; 53, pet. eth.	.....
175	**Methyl 3-pyridyl ketone**	220; 218	.....	.....	.....	.....	.....	.....	137	113	.....
176	**3-Methylacetophenone** (Methyl 3-tolyl ketone)	220	.....	1.5306	1.007	198; 203	207	.....	.....	55; 57, al.	.....

* Derivative data given in order: m.p., crystal color, solvent from which crystallized.

TABLE X. ORGANIC DERIVATIVES OF KETONES

a) Liquids 1) (Listed in order of increasing atmospheric b.p.)* (Continued)

No.	Name	Boiling point, °C	Melting point, °C	n_D^{20}	D_4^{20}	Semi-carbazone	2,4-Di-nitrophenyl-hydrazone	*p*-Nitro-phenyl-hydrazone	Phenyl-hydrazone	Oxime	Miscellaneous
177	**Isobutyrophenone** (Isopropyl phenyl ketone)	222; 217	.....	1.5190	$0.9863_4^{16.9}$	181, al.	163, or.-red, dil. ac. a.	.....	73	94, lt. pet.	.....
178	**Acetyl benzoyl ketone**	222, yel.	.....	1.537^{10}	.....	*di*: 229–32	.....	*di*: 256	*α*: 143	*α*, *mono*: 166; *β*, *mono*: 114; *di*: 240	.....
179	**5-Ethyl-1-methylcyclohexene-3-one**	223–7	.....	.....	.....	162–8d., al.	.....	.....	.....	.....	Thiosemicarbazone, 150–1
180	**4[8]-*p*-Menthen-3-one** (Pulegone)	224; 221–2	.....	1.48705^{18}	.....	174; 175–6	142	.....	.....	119	.....
181	**Pivalophenone** (*tert*-Butyl phenyl ketone)	224^{750}	.....	1.5082; 1.5102	.....	150	194–5	.....	.....	167	.....
182	**1-Phenyl-2-butanone** (Benzyl ethyl ketone)	226	.....	.....	.....	135; 146	.....	.....	.....	.....	.....
183	**6-Undecanone** (6-Hendecanone; Di-*n*-amyl ketone)	228 (cor.)	15	1.42875	0.82471	oil	.....	.....	.....	oil	.....
184	**3-Chloroacetophenone**	228	.....	.....	.....	232	.....	176	.....	88	.....
185	**Ethyl 1-thienyl ketone**	228	.....	.....	.....	167	.....	.....	.....	55–6	.....
186	**2-Undecanone** (2-Hendecanone; Methyl *n*-nonyl ketone)	228	12.1; 12.7	1.42899	0.82564	122.0–.5	63, al.	90–1, yel., al.	.....	44–5	.....
187	**2,4-Dimethylacetophenone**	228; 234–5	.....	1.5381; 1.5340	.....	185–7	.....	.....	.....	63–4, pet. eth.	.....
188	**2-Chloroacetophenone**	229	.....	1.685^{25}	.....	160	.....	.....	.....	113	.....
189	**1-Phenoxy-2-propanone** (Phenoxy-acetone)	229–30; 120^{19}	.....	1.5228	1.0903	173; 176 (cor.), 50% al.	.....	.....	.....	.....	.....
190	***n*-Propyl 4-pyridyl ketone**	229–31	.....	.....	.....	.....	.....	.....	.....	.....	Picrate, 96
191	***n*-Butyrophenone** (Phenyl *n*-propyl ketone)	230; 218–21	11.5–13.0	1.5196; 1.5203	.....	187–8, al.; 191	190, or.-red, dil. ac. a.	.....	.....	50, abs. eth.	.....
192	***d*-Carvone**	230	.....	1.49952	0.9608	162–3; 142–3; *d*, *l*: 154–6	191, red, ac. a.	174–5, red-br.	.....	*d*, *α*: 72–3, al.: *d*, *β*: 56–7; *l*, *α*, (−): 72; *l*, *β*, (+): 57–8; *d*, *l*: 93–4	$[\alpha]_D^{20}$: +62.9
193	**2,5-Dimethylacetophenone**	230	.....	1.5291; 1.5306	.....	168–9	.....	.....	.....	.....	.....
194	**4-Chloroacetophenone**	232; 236	12	.....	.....	204; 160; 146	231	239	114	95	.....
196	**4-Phenyl-2-butanone** (Methyl-*β*-phenylethyl ketone)	235	.....	.....	.....	142	.....	.....	.....	87	.....
197	**Isovalerophenone** (Isobutyl phenyl ketone)	236	.....	.....	.....	210	.....	.....	.....	76; 64.5	.....
198	**3,5-Dimethylacetophenone**	236–7	.....	1.5276^{25}	.....	.....	.....	179–80, yel., ac. a.	.....	114, me. al.	.....
199	**2-Methoxyacetophenone** (2-Acetylanisole)	239; 245	.....	1.5395	1.089	183	.....	.....	114, al.	83; 96.0–.5, pet.	.....
200	**3-Methoxyacetophenone** (3-Acetylanisole)	240; 252	.....	$1.5583^{15.4}$	$1.0993_4^{15.4}$	196	.....	.....	.....	.....	.....
201	**5-Phenyl-3-pentanone**	244	.....	1.5125	.....	80	.....	.....	.....	.....	.....
202	**5-Isopropyl-2-methylacetophenone** (2-Acetyl-*p*-cymene)	245	.....	1.51849	0.9654_{20}^{20}	147	140–2, clearing at 160	.....	.....	91–2.5	.....

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