

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids
a) Liquids. 1) (Listed in order of increasing b.p.).*

No	Name	Boiling point °C	Melting point °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	ρ Toluene	3,5-Di-nitrobenzoate	Miscellaneous	
						Equiv. valent	Acid		Alcohol					
							M.P., °C	B.P., °C	M.P., °C					B.P., °C
1	Ethyl nitrite	17			0.900 ¹⁵	75			-117.3	78.32				
2	Methyl formate	31.50	-99	1.34648 ¹⁷ He (yel)	0.97421	60	8.4	100.7	-97	64.65	2.55	53	93, al 108 (cor), al	
3	Ethyl formate	54.15	-79.4	1.35975	0.92247	74	8.4	100.7	-117.3	78.32	2.55	53	93, al	
4	Methyl acetate	57.1	-98.7	1.36170 1.3639	0.9274 0.93347	74	16.6	118.2	-97	64.65	82	153 147	108 (cor), al	
5	Ethyl trifluoroacetate	60.5		1.3093 ¹⁵		142	-15.25	72.4	-117.3	78.32			93, al	
6	Methyl nitrate	65			1.217 ¹⁵	77			-97	64.65			108 (cor), al	
7	Isopropyl formate	71, 68			0.8728	88	8.4	100.7	-89.5	82.4	2.55	53	123, pet eth	
8	Butyl nitrite	75			0.911	103			-90.2	117.6 116			64, 62.5	
9	Methyl chloroformate	75		1.38675	1.2231	94.5			-97	64.65			108 (cor), al	
10	Ethyl acetate	77.15	-83.6	1.372	0.90055	88	16.6	118.2	-117.3	78.32	82	153 147	93, al	
11	Methyl propionate	79.65	-87.5	1.3779	0.9151	88	-20.8	141	-97	64.65	81.813, 79	126 123	108 (cor), al	
12	Methyl acrylate	80.3		1.3984	0.961 ^{19,2}	86	13	140, 141	-97	64.65	84-5, pet eth	141	108 (cor), al	
13	n-Propyl formate	80.85, 81	-92.9	1.37789	0.9071, 0.918	88	8.4	100.7		97.1	2.55	53	74, pet eth	
14	tert-Butyl formate	83				102	8.4	100.7	25.5	82.5	2.55	53	142, pet eth	
15	Allyl formate	83.6			0.946	86	8.4	100.7		97.1	2.55	53	49-50	
16	Ethyl nitrate	87	-112		1.106	91			-117.3	78.32			93, al	
17	Isopropyl acetate	88.9, 91	-73.4	1.3740 ²⁵	0.872	102	16.6	118.2	-89.5	82.4	82	153, 147	123, pet eth	
18	Dimethyl carbonate (Methyl carbonate)	90.5		1.3687	1.0702 1.0694	90			-97	64.65			108 (cor), al	
19	Methyl isobutyrate	92.6, 92.26	-87.7, -84.7	1.3840	0.8906	102	-46.1	154.7	-97	64.65	128, 129	108.5- 9.5	108 (cor), al	
20	Ethyl chloroformate	93		1.3974	1.13519	108.5			-117.3	78.32			93, al	
21	sec-Butyl formate	97		1.384	0.884	102	8.4	100.7		99.5	2.55	53	76	
22	tert-Butyl acetate	97.8		1.386	0.867	116	16.6	118.2	25.5	82.5	82	153, 147	142, pet eth	
23	Isobutyl formate	98.4	-95.8	1.38568	0.88535, 0.8755	102	8.4	100.7		108.1	2.55	53	87	
24	Isoamyl nitrite	99		1.38708 ²¹	0.880 ¹⁵	117			-117	132			61	
25	Ethyl difluoroacetate	99		1.3463		124		134.5	-117.3	78.32	52		93, al	

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point, °C	Melting point, °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p Toluene	3,5-Dinitrobenzoate	Miscellaneous	
						Equiv- alent	Acid		Alcohol					
							M.P., °C	B.P., °C	M.P., °C					B.P., °C
26	Methyl methacrylate	99, 100 1	-50	1.413	0.936	100	16	161	-97	64.65	102.6		108 (cor) al	Polymerizes on standing or heating.
27	Ethyl propionate	99.1	-73.85	1.3853	0.8889	102	-20.8	141	-117.3	78.32	81, 81.3, 79	126, 123	93, al	N-(β-Aminoethyl)morpholide, 85
28	Ethyl acrylate	101		1.4059 ^{19,4}	0.9136 ¹⁵	100	13	141	-117.3	78.32	84-5, pet eth	141	93, al	Polymerizes on standing or heating
29	Methyl pivalate (Methyl trimethylacetate)	101		1.4228	0.891 ⁰	116	35.5	163-4	-97	64.65	155.7, 153.4, et ac-pet eth	119.20	108 (cor), al	
30	n-Propyl acetate	101.55	-95	1.38468	0.8834	102	16.6	118.2		97.1	82	153, 147	74, pet eth	
31	Methyl n-butyrate	102.3	-84.8	1.3879	0.8982	102	-5.5-8	162.5, 164	-97	64.65	115.6	75	108 (cor), al	
32	Allyl acetate	104		1.40488	0.9276	100	16.6	118.2		97.1	82	153, 147	49.50	
33	Trimethyl orthoformate (Methyl orthoformate)	105, 102		1.3793	0.9676	106	8.4	100.7	-97	64.65	2.55	53	108 (cor), al	
34	Methyl isocrotonate	106.2, 108.2 (cor)				100	15	169	-97	64.65	101.2	132	108 (cor), al	
35	n-Butyl formate	106.6	-91.9	1.38940	0.8885	102	8.4	100.7	-90.2	117.6, 116	2.55	53	64, 62.5	
36	Ethyl isobutyrate	109.8, 111	-88.2	1.3903	0.86930	116	-46.1	154.7	-117.3	78.32	128, 129	108.5-9.5	93, al	Hydrazide, 104, eth-al
37	n-Propyl nitrate	110		1.3979	1.063	105				97.1			74, pet eth	
38	Chloromethyl acetate	111			1.094 ¹⁵	108.5	16.6	118.2			82	153, 147		
39	Isopropyl propionate	111.3			0.8931 ⁰	116	-20.8	141	-89.5	82.4	81, 81.3, 79	126, 123	123, pet eth	
40	sec-Butyl acetate	112.0		1.3865 ²⁵	0.872, 0.8648 ²⁵	116	16.6	118.2		99.5	82	153, 147	76	
41	n-Propyl chloroformate	113, 115		1.40350	1.0901	122.5				97.1			74, pet eth	
42	Methyl isovalerate	116.7		1.3900 ²⁵	0.8808	116	-30.0	176.5	-97	64.65	135, 137	106.7	108 (cor), al	
43	Isobutyl acetate	117.2, 118		1.39008	0.8747	116	16.6	118.2		108.1	82	153, 147	87	
44	Ethyl pivalate (Ethyl trimethylacetate)	118, 115		1.39061	0.85467	130	35.5	163-4	-117.3	78.32	155.7, 153-4, et ac-pet eth	119.20	93, al	
45	Ethyl methacrylate	118.5 ¹¹		1.41472	0.91063	114	16	161	-117.3	78.32	102.6		93, al	Polymerizes on heating.

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point, °C	Melting point, °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p-Tolu- dide	3,5-Di- nitro- benzoate	Miscellaneous	
						Equiv- alent	Acid		Alcohol					
							M P, °C	B P, °C	M P, °C					B P, °C
46	Methyl crotonate	118 8- 119 3			0 9806 ⁴	100	72	189 (cor)	-97	64 65	118, w, 115	132, bz	108 (cor), al	
47	Isopropyl iso- butyrate	120 76			0 84708 ^{21 3}	130	-46 1	154 7		82 4	128, 129	108 5- 9 5	123, pet eth	Hydrazide, 104, eth -al
48	Ethyl n-butyrate	121 6	-100 8	1 40002	0 87917	116	-5 5, -8	162 5, 164	-117 3	78 32	115-6	75	93, al	
49	n-Propyl pro- pionate	122 2, 123 4	-75 9	1 39325	0 8809	116	-20 8	141		97 1	81, 81 3, 79	126 123	74, pet eth	
50	tert-Amyl acetate (Dimethylethyl- carbinyl acetate)	124		1 392	0 8738 ¹⁹	130	16 6	118 2	-8 55	102 3	82	153, 147	116, 117-8	
51	Allyl propionate	124				114	-20 8	141		97 1	81, 81 3, 79	126 123	49 50	
52	Isoamyl formate	124 2	-93 5	1 39756	0 8820	116	8 4	100 7	-117	132	2 55	53	61	
53	Ethyl isocrotonate	125 5- 126 ⁷⁴⁹		1 42423	0 91820	114	15	169	-117 3	78 32	101 2	132	93, al	
54	n-Butyl acetate	126 1	-73 5	1 39614	0 881	116	16 6	118 2	-90 2	117 6, 116	82	153, 147	64, 62 5	
55	Diethyl carbonate (Ethyl carbon- ate)	126 5	-43 0	1 3852	0 9752	118			-117 3	78 32			93, al	
56	tert-Butyl iso- butyrate	126 7		1 3921		144	-46 1	154 7	25 5	82 5	128, 129	108 5- 9 5	142, pet eth	Hydrazide, 104, eth -al
57	Methyl n-valerate (Methyl n- pentanoate)	127 7	-91 0	1 397	0 885	116	-34 5	186 35	-97	64 65	106	74	108 (cor), al	
58	Isopropyl n- butyrate	128			0 8652 ¹³	130	-5 5, -8	162 5, 164	-89 5	82 4	115-6	75	123, pet eth	
59	Isobutyl chloro- formate	130, 128 8		1 40711 ^{17 9}		136 5				108 1			87	
60	Methyl methoxy- acetate	130		1 39636	1 0511	104		203	-97	64 65	96 5- 7 0, 92 4		108 (cor), al	
61	Methyl chloro- acetate	130, 132		1 4221	1 238	108 5	α 61 3, β 56 2, γ 52 5	189	-97	64 65	121	162	108 (cor), al	
62	Ethyl methoxy- acetate	132			1 0118 ¹⁵	118		203	-117 3	78 32	96 5 7 0, 92-4		93, al	
63	n-Amyl formate	132 1, 130	-73 5	1 39916	0 8853	116	8 4	100 7	-78 5	138 (cor)	2 55	53	46 4	
64	sec-Amyl(3) acetate (Diethyl- carbinyl acetate)	133			1 4005	130	16 6	118 2		116 1	82	153, 147	101, 99, 97	
65	sec-Amyl(2) acetate (Methyl n-propylcarbinyl acetate)	133 5		1 3960	0 8692 ¹⁸	130	16 6	118 2		119 85	82	153, 147	62	
66	Allyl isobutyrate	134				128	-46 1	154 7		97 1	128, 129	108 5 9 5	49-50	Hydrazide, 104, eth -al
67	Ethyl isovalerate	134 7	-99 3	1 4009	0 86565	130	-30 0	176 5	-117 3	78 32	135, 137	106-7	93, al	
68	n-Propyl iso- butyrate	135		1 3959	0 8843 ⁰	130	-46 1	154 7		97 1	128, 129	108 5 9 5	74, pet eth	Hydrazide, 104, eth -al

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point, °C	Melting point °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p-Tolu- dide	3,5-Di- nitro benzoate	Miscellaneous	
						Equiv alent	Acid		Alcohol					
							M P, °C	B P °C	M P °C					B P °C
69	<i>n</i> -Butyl nitrate	136			1.048 ⁰	119			-90.2	117.6			64, 62.5	
70	Methyl pyruvate	136.8 138, 134-7			1.154 ⁰	102	13.6	165d	-97	116 64.65	124.5 145	109 130	108 (cor), al	2,4-Dinitro- phenylhyd- razone, 186.5-7.5 (cor), yel, diox-me al
71	Methyl α-hy- droxyisobutyrate	137				118	79	212	-97	64.65		132.3, w	108 (cor), al	
72	Isobutyl pro- pionate	138, 137	-71.4	1.3975	0.8876 ⁰	130	-20.8	141		108.1	81, 81.3, 79	123-6	87	
73	Ethyl crotonate	138, 136.7 ⁷⁴⁹		1.42524	0.91752	114	72, w	189 (cor)	-117.3	78.32	159.60, bz	132, bz	93, al	
74	Allyl <i>n</i> -butyrate	142				128	-5.5 -8	162.5, 164		97.1	115-6	75	49.50	
75	Isoamyl acetate (3-Methylbutyl acetate)	142		1.40034	0.8674	130	16.6	118.2	-117	132	82	153, 147	61	
76	Isopropyl iso- valerate	142		1.3938 ²⁵	0.8538 ¹⁷	144	-30	176.5	-89.5	82.4	135.137	106.7	123, pet eth	74, pet eth
77	<i>n</i> -Propyl <i>n</i> -buty- rate	143.8	-95.2	1.4005	0.872	130	-5.5 -8	162.5 164		97.1	115.6	75		
78	β-Methoxyethyl acetate (Ethylene glycol mono- methyl ether acetate, Methyl cellosolve acetate)	144			1.088	118	16.6	118.2		124.5	82	153 147		
79	Methyl bromo- acetate	144d			1.657	153	50	208	-97	64.65	91		108 (cor), al	
80	<i>n</i> -Butyl chloro- formate	145, 139		1.417 ^{*4}	1.079	136.5			-90.2	117.6, 116			64, 62.5	
81	β-Chloroethyl acetate	145		1.4234	1.178	122.5	16.6	118.2		131	82	153, 147		
82	Methyl <i>d</i> - lactate	145 144.8		1.4144	1.0931	104	16.8, 18	122 ¹⁵	-97	64.65	78.5-9.0 (cor), bz-al (3.1)	107	108 (cor), al	
83	Ethyl chloro- acetate	145	-26	1.42274	1.158	122.5	α 61.3, β 56.2, γ 52.5	189	-117.3	78.32	121	162	93, al	
84	<i>tert</i> -Butyl <i>n</i> - butyrate	145-6.6		1.4001 ^{17.5}		144	-5.5, -8	162.5, 164	25.5	82.5	115-6	75	142, pet eth	
85	Triethyl ortho- formate (Ethyl- orthoformate)	145.5		1.3922	0.8909	148	8.4	100.7	-117.3	78.32	2.55	53	93, al	
86	Ethyl <i>n</i> -valerate (Ethyl <i>n</i> - pentanoate)	145.5	-91.2	1.40094	0.8739	130	-34.5	186.35	-117.3	78.32	106	74	93, al	
87	Ethyl α-chloro- propionate	146			1.087	136.5		186	-117.3	78.32	80	124	93, al	Phenylhydra- zide, 95

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point °C	Melting point °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p-Tolu- dide	3,5-Di- nitro- benzoate	Miscellaneous	
						Equiv- alent	Acid		Alcohol					
							M P °C	B P °C	M P °C					B P °C
88	<i>n</i> -Butyl propionate	146.8	-89.6	1.4038 ¹⁵	1.401	130	-20.8	141	-90.2	117.6, 116	81, 81.3, 79	126, 123	64, 62.5	
89	Benzyl chloroacetate	147		1.5246 ¹⁸	1.2223 ¹	170.5	α 61.3, β 56.2, γ 52.5	189	-15.3	205.5	121	162	113	
90	Di-isopropyl carbonate (Isopropyl carbonate)	147.2 (cor)		1.3932	0.9162	146			-89.5	82.4			123, pet eth	
91	Methyl isobutylcarbinyl acetate	148			0.8805 ⁰	130	16.6	118.2	-97	64.65	82	153, 147	108 (cor), al	
92	Methyl ethoxyacetate	148			1.0112 ¹	118		206.7	-97	64.65	80.2	32, eth	108 (cor), al	
93	Isobutyl isobutyrate	148.6	-80.65	1.3999	0.87496 ⁰	144	-46.1	154.7		108.1	128, 129	108.5, 9.5	87	Hydrazide, 104, eth-al
94	<i>n</i> -Amyl acetate (<i>n</i> -Pentyl acetate)	149.25	-70.8	1.4031	0.8756	130	16.6	118.2	-78.5	138 (cor)	82	153, 147	46.4	
95	Ethyl α-hydroxyisobutyrate	150				132	79	212	-117.3	78.32		132.3, w	93, al	
96	Methyl glycolate	151.2			1.1677 ¹⁸	90	78.9, 80		-97	64.65	120 al- et ac	143, w	108 (cor), al	
97	Methyl <i>n</i> -caproate (Methyl <i>n</i> -hexanoate)	151.25	-71.0	1.405	0.88464	130	-3.9	205.35	-97	64.65	100.1	74.5	123, pet eth	
98	Isopropyl <i>n</i> -valerate (Isopropyl <i>n</i> -pentanoate)	153.5		1.4009	0.8579	144	-34.5	186.35	-89.5	82.4	106	74	61	
99	Isoamyl chloroformate	154		1.41916 ¹⁶	1.032 ¹⁵	150.5			-117	132			93, al	
100	Ethyl <i>d,l</i> -lactate	154.5		1.410	1.030	118	16.8, 18	122 ¹⁵	-117.3	78.32	78.5, 9.0 (cor), bz-al, (3.1)	107	93, al	
101	Ethyl pyruvate	155		0.0596 ^{15, 6}	1.408 ^{15, 6}	116	13.6	165d	-117.3	78.32	124.5, 145	109, 130	93, al	Phenylhydrazone, 118, dil al 4-Nitrophenylhydrazone, 185-7, 2,4-Dinitrophenylhydrazone, 154.5, 155 (cor), diox-al
102	<i>n</i> -Propyl isovalerate	155.5		1.40413 ^{17, 8}	0.8643 ^{17, 8}	144	-30	176.5		97.1	135, 137	106-7	74, pet eth	
103	<i>n</i> -Hexyl formate	155.51	-62.65	1.40898 ¹⁵	0.88133	130	8.4	100.7	-51.6, -46.1	157.5	2.55	53	58.4 (cor)	

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point, °C	Melting point °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p-Toluidide	3,5-Dinitrobenzoate	Miscellaneous	
						Equivalent	Acid		Alcohol					
							M P °C	B P °C	M P °C					B P °C
104	<i>β</i> -Ethoxyethyl acetate (Ethylene glycol monoethyl ether acetate, Ethyl cellosolve acetate)	156.2, 158		1.40292	0.9701	132	16.6	118.2		135	82	153, 147	75, al	
105	Isobutyl <i>n</i> -butyrate	157		1.40295 ^{18,4}	0.8620	144	-5.5 -8	162.5 164		108.1	115.6	75	87	
106	Ethyl dichloroacetate	158		1.43860	1.2821	157	5.6	194	-117.3	78.32	98 (subl)	153	93, al	
107	Ethyl bromoacetate	159		1.451	1.506	167	50	208	-117.3	78.32	91		93, al	
108	Ethyl glycolate	160			1.0869 ¹⁵	104	78.9 80		-117.3	78.32	120, al- et ac	143, w	93, al	
109	Isoamyl propionate	160.2		1.4065	0.870	144	-20.8	141	-117	132	81, 81.3 79	126 123	61	
110	Ethyl α -bromopropionate	162			1.524	181	25.7	203.5	-117.3	78.32	123	125	93, al	
111	Cyclohexyl formate	162.5 ⁷⁵⁰		1.443	1.010	128	8.4	100.7	25.1	161.1	2.55	53	112-3, al	
112	<i>β</i> -Bromoethyl acetate	163			1.524	167	16.6	118.2		149d	82	153, 147		
113	Tetraethyl silicate (Ethyl orthosilicate)	165.5, 168.5		1.38619	0.93975	52			-117.3	78.32			93, al	Gives SiO ₂ on hydrolysis
114	<i>n</i> -Propyl <i>n</i> -valerate (<i>n</i> -Propyl <i>n</i> -pentanoate)	166.2, 167	-70.7	1.4065	0.8699	144	-34.5	186.35		97.1	106	74	74, pet eth	
115	<i>n</i> -Butyl <i>n</i> -butyrate	166.6	-91.5	1.406	0.869	144	-5.5 -8	162.5, 164	-90.2	117.6 116	115.6	75	64, 62.5	
116	Ethyl <i>n</i> -caproate (Ethyl <i>n</i> -hexanoate)	167.7	-67.5	1.40727	0.8710	144	-3.9	205.35	-117.3	78.32	100.1	74.5	93, al	
117	Ethyl trichloroacetate	168		1.450	1.380	191.5	57.8	197.5	-117.3	78.32	141	113	93, al	Phenylhydrazide, 123
118	Isopropyl <i>d,l</i> -lactate	168, 166.8		1.4082 ²⁵	0.998	132	16.8, 18	122 ¹⁵	-89.5	82.4	78.5, 9.0 (cor), bz-al (3.1)	107	123, pet eth	
119	Di- <i>n</i> -propyl carbonate (<i>n</i> -Propyl carbonate)	168.5 (cor)		1.4014	0.9411	146				97.1			74, pet eth	
120	<i>n</i> -Amyl propionate (<i>n</i> -Pentyl propionate)	168.7	-73.1	1.4096 ¹⁵	0.8761 ¹⁵	144	-20.8	141	-78.5	138 (cor)	81, 81.3, 79	126, 123	46.4	
121	Ethylidene diacetate	169			1.061 ¹²	73	16.6	118.2	-12.6	197.85	82	153, 147	169	
122	Isoamyl isobutyrate	169			0.8760 ⁰	158	-46.1	154.7	-117	132	128, 129	108.5- 9.5	61	Hydrazide, 104, eth-al
123	Methyl acetoacetate	170		1.41964	1.0765 ⁰	116			-97	64.65			108 (cor), al	Semicarbazone, 152.5, me al
124	Isobutyl isovalerate	171		1.40569	0.8534	158	-30	176.5		108.1	135, 137	106.7	87	

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point, °C	Melting point, °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p-Toluidide	3,5-Dinitrobenzoate	Miscellaneous	
						Equiv- alent	Acid		Alcohol					
							M P, °C	B P, °C	M P, °C					B P, °C
125	Methyl enanthate (Methyl <i>n</i> -heptanoate)	173.8	-55.8	1.412	0.88011	144	-74.7	223	-97	64.65	96.965	81	108 (cor), al	
126	Ethylene glycol diformate	174			1.193 ⁰	59	8.4	100.7	-78.5	138 (cor)	2.55	53	46.4	
127	sec-Butyl <i>n</i> -valerate (sec-Butyl <i>n</i> -pentanoate)	174.5		1.4081	0.8605 ²⁰	158	-34.5	108.35		99.5	106	74	76	
128	Cyclohexyl acetate	175		1.442	0.970	142	16.6	118.2	25.1	161.1	82	153, 147	112.3, al	
129	<i>n</i> -Butyl chloroacetate	175			1.081	150.5	α 61.3, β 56.2, γ 52.5	189	-90.2	117.6, 116	121	162	64, 62.5	
130	Furfuryl acetate	175.7		1.4627	1.118	140	16.6	118.2		172, 170	82	153, 147	80.1	
131	Methyl methylacetoacetate	177.4		1.418	1.030	130			-97	64.65			108 (cor), al	Semicarbazone, 138, al
132	<i>n</i> -Heptyl formate	178.12		1.41505 ¹⁵ He (yel)	0.87841	144	8.4	100.7	-34.6, -33.8	176.8	2.55	53	46.47	
133	<i>n</i> -Hexyl acetate	178.1	-80.9, -60.9	1.41122 ¹⁵ He (yel)	0.87336	144	16.6	118.2	-51.6, -46.1	157.5	82	153, 147	58.4 (cor)	
134	Isoamyl <i>n</i> -butyrate	178.6		1.411	0.864	158	-5.5, -8	162.5, 164	-117	132	115.6	75	61	
135	Ethyl β-bromopropionate	179			1.425	181	62.5		-117.3	78.32	111		93, al	2-Naphthylamide, 174
136	Ethyl acetyl-glycolate	179			1.0993 ¹⁷	73			-117.3	78.32			93, al	Hydrolysis → glycolic a + ac a + al
137	Isobutyl <i>n</i> -valerate (Isobutyl <i>n</i> -pentanoate)	179		1.4099	0.8625	158	-34.5	186.35		108.1	106	74	87	
138	β-Hydroxyethyl formate (Ethylene glycol monoformate)	180			1.1989 ¹⁵	90	8.4	100.7	-78.5	138 (cor)	2.55	53	46.4	
139	Ethyl methylacetoacetate	180.8 (cor), 187		1.419	1.0191	144			-117.3	78.32	73, eth		93, al	Anilide, 138-40, Semicarbazone, 194, 2,4-Dinitrophenyl hydrazone, 56-7
140	Ethyl acetoacetate	181		1.41976	1.025	130			-117.3	78.32			93, al	Semicarbazone, 129, 133, eth
141	Methyl pyromucate (Methyl 2-furoate)	181.3		1.4860	1.180	126	133.4, 132	230-2	-97	64.65	142-3	170.5, al	108 (cor), al	2,4-Dinitrophenylhydrazone, 93, 96, yel, al

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point, °C	Melting point °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p-Toluide	3,5-Di-nitro benzoate	Miscellaneous	
						Equiv alent	Acid		Alcohol					
							M P °C	B P °C	M P °C					B P °C
142	Dimethyl malonate (Methyl malonate)	181.5	-62	1.41398	1.1539	66	134.8	9	-97	64.65	mono 106 110 di- 170 w-al	mono 156d 252 3, al	108 (cor) al	Phenylhydrazide, 194
143	Ethyl β-methoxyethyl carbonate	182.6		1.4036 ²⁵	1.0424 ²⁵	148			-117.3	78.32			93 al	
144	Methyl cyclohexanecarboxylate (Methyl hexahydrobenzoate)	183		1.45372 ¹⁵	0.9954 ¹⁵	142	30.1	233	-97	64.65	185.6		108 (cor) al	
145	Diethyl oxalate (Ethyl oxalate)	185.19	-41.5, -40.6	1.41043	1.0785	73	189.5 (anh) 101 (+ 2H ₂ O)		-117.3	78.32	mono 219 di 419d	mono 169 di 268	93, al	N-(β-Aminoethyl)morpholide 170
146	n-Amyl n-butyrate (n-Pentyl n-butyrate)	186.4	-72.3	1.412	0.866	158	-5.5, -8	162.5 164	-78.5	138 (cor)	115-6	75	46.4	
147	n-Butyl n-valerate (n-Butyl n-pentanoate)	186.9	-92.8	1.4123	0.8678	158	-34.5	186.35	-90.2	117.6 116	106	74	64 62.5	
148	β-Hydroxyethyl acetate (Ethylene glycol monoacetate)	187-9				104	16.6	118.2	-78.5	138 (cor)	82	153 147	46.4	
149	n-Propyl n-caproate (n-Propyl n-hexanoate)	187.15 186	-74.0	1.417	0.86719	158	-3.9	205.35		97.1	100.1	74.5	74, pet eth	
150	Dimethyl sulfate (Methyl sulfate)	188	-27	1.3874	1.3348 ¹⁵	63			-97	64.65			108 (cor) al	
151	n-Butyl lactate	188	-43	1.4216	0.984 ²⁰ ₂₀	146	16.8, 18	122 ¹⁵	-90.2	117.6 116	78.5-9.0 (cor), bz-al (3.1)	107	64 62.5	
152	Ethyl enanthate (Ethyl n-heptanoate)	188.6	-66.3	1.413	0.86856	158	-7.47	223	-117.3	78.32	96, 96.5	81	93, al	
153	Methyl ethylacetate (cor)	189.7 (cor)			0.989	144			-97	64.65	95.6, bz		108 (cor) al	
154	Di-isobutyl carbonate (Isobutyl carbonate)	189.8 (cor)		1.4072	0.9138	174				108.1			87	
155	n-Hexyl propionate	190	-57.5	1.41621 ¹⁵ He (yel)	0.86980	158	-20.8	141	-51.6 -46.1	157.5	81, 81.3, 79	126 123	58.4 (cor)	
156	Ethylene glycol diacetate	190.2	-31	1.4150	1.1040	73	16.6	118.2	-78.5	138 (cor)	82	153, 147	46.4	
157	Isoamyl iso-valerate	190.4		1.41300 ^{18.7}	0.870	172	-30	176.5	-117	132	135, 137	106.7	61	
158	n-Heptyl acetate	192.45		1.41653 ¹⁵ He (yel)	0.87070 ¹⁵	158	16.6	118.2	-34.6, -33.8	176.8	82	153, 147	46, 47	
159	Cyclohexyl propionate	193 ⁷⁵⁰			0.9718 ⁹	156	-20.8	141	25.1	161.1	81, 81.3, 79	126, 123	112.3, al	

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point, °C	Melting point, °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p-Tolu- dide	3,5 Di- nitro- benzoate	Miscellaneous	
						Equiv alent	Acid		Alcohol					
							M P, °C	B P, °C	M P, °C					B P, °C
160	Di-isopropyl oxalate (Iso-propyl oxalate)	193.4		1.4100	1.0097	87	189.5 (anh.), 101 (+ 2H ₂ O)		-89.5	82.4	mono 219, di 419d	mono 169, di 268	123, pet eth	
161	Ethyl β-ethoxyethyl carbonate	194.5		1.5064 ²⁵	1.0115 ²⁵	162			-117.3	78.32			93, al	
162	sec-Octyl acetate	194.5		1.4141	0.8606 ¹⁹	172	16.6	118.2		179	82	153, 147	32	
163	Methyl n-caprylate (Methyl n-octanoate)	194.6	-41	1.417	0.878	158	16.3	237, 239.3	-97	64.65	57	70	108 (cor), al	
164	α-Tetrahydrofurfuryl acetate	195, 194		1.4350	1.0624 ²⁵	144	16.6	118.2		177-8 ⁷⁴³	82	153, 147	83-4	
165	Methyl levulinate	196, 191		1.42333	1.04945	130	33.5	245-6	-97	64.65	107-8, al	108, 9, w	108 (cor), al	Semicarbazone, 142-3, Phenylhydrazone, 94-6, 2,4-Dinitrophenylhydrazone, 141.5-2.5 (cor), diox-al, Oxime, 96
166	Ethyl cyclohexanecarboxylate (Ethyl hexahydrobenzoate)	196		1.45012 ¹⁵	0.9672 ¹⁵	156	30.1	233	-117.3	78.32	185.6		93, al	
167	Diethyl methylmalonate	196			1.019 ¹⁵	87	137, 138d		-117.3	78.32	217, 206	mono 145d, di 228, 214	93, al	
168	Phenyl acetate	196.7		1.503	1.078	136	16.6	118.2	41.8, 42	182	82	153, 147	145.8 (cor), al	
169	Ethyl ethylacetacetate	198		1.422	0.9856	158			-117.3	78.32	95.6, bz		93, al	Ketone cleavage → 2-pentanone, b p 102
170	n-Octyl formate	198.8	-39.1	1.42082 ¹⁵	0.87435	158	8.4	100.7	-16, -16.7	195	2.55	53	61-2	
171	2-Ethyl-1-hexyl acetate	199			0.8733 ³⁰	172	16.6	118.2		184.6	82	153, 147		
172	Methyl benzoate	199.2	-12.4	1.5164	1.0888	136	122.4	249	-97	64.65	130	158	108 (cor), al	
173	Diethyl malonate (Ethyl malonate) ...	199.3	-51.5	1.41618	1.05513	80	134.8	9	-117.3	78.32	mono 106, di 170, w-al	mono 156d, di 252-3, al	93, al	Phenylhydrazide, 194
174	Methyl cyanoacetate	200	-22.5		1.0962 ²⁵	99	66		-97	64.65	119.20		108 (cor), al	

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point, °C	Melting point, °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p-Toluidide	3,5-Dinitrobenzoate	Miscellaneous	
						Equiv. valent	Acid		Alcohol					
							M P, °C	B P °C	M P °C					B P, °C
175	Dimethyl mesaconate	203		1.45119	1.0914	79	204.5 (cor)		-97	64.65	mono (α) 222 (β) 174, dt 176.5	mono (α) 196, dt 212, al	108 (cor), al	Dihydrazide, 215d, dil al
176	Benzyl formate	203		1.516	1.080	136	8.4	100.7	-15.3	205.5	2.55	53	113	
177	Vinyl benzoate	203		1.065	1.065	148	122.4	249			130	158		
178	Cyclohexyl isobutyrate	204 ⁷⁵⁰		0.9489 ⁰		170	-46.1	154.7	25.1	161.1	128.129	108.5	112-3, al	Hydrazide, 104, al-eth
179	Dimethyl maleate	204.4	7.6	1.44156	1.14513 ¹⁵	72	137		-97	64.65	mono 172.3, w, 153, sl d, dt 181, me al	dt, 142, eth	108 (cor), al	
180	α-Tetrahydrofurfuryl propionate	204-7			1.044	158	-20.8	141		177.8 ⁷⁴³	81.81379	126.123	83.4	
181	Ethyl levulinate	205.8		1.42288	1.01114	144	33.5	245-6	-117.3	78.32	107-8d	108-9, w	93, al	Semicarbazone, 147.8, Phenylhydrazone, 103-4, 2,4-Dinitrophenylhydrazone, 101.2, diox-al, Oxime, 96
182	Ethyl allylacetoacetate	206 sl d, 211-2 sl d		1.4317 ⁶	0.9898	170			-117.3	78.32			93, al	Semicarbazone, 125, w
183	n-Amyl n-valerate (n-Pentyl n-pentanoate)	207.4		1.4181 ¹⁵	0.8825 ⁰	172	-34.5	186.35	-78.5	138 (cor)	106	74	46.4	
184	Di-n-butyl carbonate (n-Butyl carbonate)	207.5 (cor)		1.4117	0.9238	174			-90.2	117.6, 116			64, 62.5	
185	n-Butyl n-caproate (n-Butyl n-hexanoate)	207.74	-63.1, -64.3	1.41877 ¹⁵ He (yel)	0.86530	172	-3.9	205.35	-90.2	117.6, 116	100-1	74.5	64, 62.5	
186	n-Hexyl n-butyrate	207.88	-78	1.41875 ¹⁵ He (yel)	0.86519	172	-5.5, -8	162.5, 164	-51.6, -46.1	157.5	115-6	75	58.4 (cor)	
187	2-Tolyl acetate ("o-Cresyl acetate")	208		1.048	1.048	150	16.6	118.2	31	191.2	82	153, 147	134.8 (cor), al	
188	Diethyl sulfate (Ethyl sulfate)	208		1.4010 ¹⁸	1.172 ²⁵	77			-117.3	78.32			93, al	
189	n-Propyl n-enanthate (n-Propyl n-heptanoate)	208	-64.8	1.41835 ¹⁵	0.86556	172	-7.47	223		97.1	96, 96.5	81	74, pet eth	
190	Ethyl n-caprylate (Ethyl n-octanoate)	208.35	α -43.1, β -59.2	1.41775	0.8667	172	16.3	237, 239.3	-117.3	78.32	110, 106	70	93, al	N-(β-Aminoethyl) morpholide, 59

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point, °C	Melting point, °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p-Tolu- dide	3,5-Di- nitro- benzoate	Miscellaneous	
						Equiv- alent	Acid		Alcohol					
							M P, °C	B P, °C	M P °C					B P °C
191	Isobutyl enanthate (Isobutyl <i>n</i> -heptanoate)	209			0.8593	186	-7.47	223		108.1	96.96.5	81	87	
192	Isopropyl levulinate	209.3		1.42088	0.98724	158	33.5	245.6		82.4	107.8d	108-9, w	123, pet eth	Semicarbazone, 141-2, Phenylhydrazone, 108.9, 2,4-Dinitrophenylhydrazone, 88-9 (cor.), 90.9
193	Trimethylene glycol diacetate (1,3-Diacetoxypropane)	210			1.069	80	16.6	118.2	-30	214.7 210.2	82	153 147	178	
194	<i>n</i> -Octyl acetate	210			0.8847 ^o	172	16.6	118.2	-16	195	82	153 147	61.2	
195	<i>n</i> -Heptyl propionate	210	-50.9	1.42605 ^{1,7} He (yel)	0.86786	172	-20.8	141	-34.6 -33.8	176.8	81.81.3 79	126 123	46.47	
196	Dimethyl citraconate	210.5		1.44856	1.11531	79	92.91d eth lgr	206	-97	64.65	100.1		108 (cor.), al	Dihydrazide, 177, w, 1-Naphthylamide, 169-70
197	<i>n</i> -Propyl pyromucate (<i>n</i> -Propyl 2-furoate)	211		1.4737 ^{25.9}	1.0745 ^{25.9}	154	133-4, 132	230.2		97.1	142.3	170.5, al	74, pet eth	
198	Ethylene glycol dipropionate	211			1.0544 ^{1,5}	87	-20.8	141	-78.5	138 (cor) 79	81, 81.3, 126	126 123	46.4	
199	Cyclohexyl <i>n</i> -butyrate	212 ⁷⁵⁰			0.9572 ^o	170	-5.5, -8	162.5, 164	25.1	161.1	115.6	75	112-3, al	
200	3-Tolyl acetate ("m-Cresyl acetate")	212	12	1.4978	1.049	150	16.6	118.2	11.95	202.7	82	153, 147	164.5 (cor), al	
201	Ethyl aceto-pyruvate	213.5		1.4757 ¹⁷	1.1251	158	101, bz		-117.3	78.32	131.2d, al		93, al	
202	Ethyl benzoate	212.4 213.2	-34.7	1.50570	1.04684	150	122.4	249	-117.3	78.32	130	158	93, al	N-(β-Aminoethyl) morpholide, 123.4
203	4-Tolyl acetate ("p-Cresyl acetate")	212.5		1.500	1.051	150	16.6	118.2	36	202	82	153 147	188.6 (cor), al	
204	Di- <i>n</i> -propyl oxalate (<i>n</i> -Propyl oxalate)	213.9	-51.7	1.4168	1.0169	87	189.5 (anh), 101 (+2 H ₂ O)			97.1	mono 219, di 419d	mono 169, di 268	74, pet eth	NH ₂ OH → Di- <i>n</i> -propyl oxamate, 90-2, me al
205	Methyl pel-argonate	214, 213-4			0.892	172	12.3	254.4	-97	64.65	99	84	108 (cor), al	
206	Dimethyl glutarate	214 ⁷⁶¹	-34.7	1.42415	1.0874	80	98	302.4	-97	64.65	di 175	di 218	108 (cor), al	

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point, °C	Melting point, °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p-Toluidide	3,5-Dinitrobenzoate	Miscellaneous	
						Equiv alent	Acid		Alcohol					
							M P, °C	B P, °C	M P, °C					B P, °C
207	2,6-Dimethylphenyl acetate (vic-m-Xylenyl acetate)	214-6				164	16 6	118 2	49	203	82	153, 147	158 8 (cor), al	
208	Methyl 2-toluate (Methyl 2-methylbenzoate)	215			1 068	150	104-5, 107 8	259 ⁷⁵¹	-97	64 65	142 8 (cor)	144	108 (cor), al	
209	Benzyl acetate	217		1 5200	1 055	150	16 6	118 2	-15 3	205 5	82	153, 147	113 N-(β-Aminoethyl) morpholide, 95 2	
210	Diethyl succinate	217 25	-20 8	1 41975	1 0398	87	185 182 8	235d	-117 3	78 32	mono 157, di 260d, w	mono 179 80, di 254 5-5 5, 260	93, al	N-(β-Aminoethyl) morpholide, 174
211	Diethylene glycol monoethyl ether acetate	218			1 013	176	16 6	118 2		198	82	153, 147	oil	
212	Diethyl fumarate	218 4, 213-4	0 55	1 44103	1 052	86	286 7 (sealed tube), 233-5, 200, subl		-117 3	78 32	mono 270, 300-2, subl, di 266d	mono 233 0-4 5, di 313 4, ac a	93, al	
213	Isopropyl benzoate	218 5		1 4890 ²⁵	1 013	164	122 4	249	-89 5	82 4	130	158	123, pet eth	
214	Methyl phenylacetate	220		1 507	1 068	150	76 5, subl	256 5 (cor)	-97	64 65	156	135-6	108 (cor), al	
215	l-Linalyl acetate	220		1 4460	0 8951	196	16 6	118 2		199	82	153, 147	[α] _D -3 to -17, 4-Nitrobenzoate, 70	
216	Methyl 3-toluate (Methyl 3-methylbenzoate)	221, 215			1 061	150	111 3, 110-1	263, subl	-97	64 65	94, 97	118	108 (cor), al	
217	n-Propyl levulinate	221 2		1 42576	0 98955	158	33-5	245 6		97 1	107-8d	108-9, w	74, pet eth	Semicarbazone, 129-30, Hydrazone, 88-90, Phenylhydrazone, 67-8 (cor), al, Oxime, 96
218	Diethyl d,l-tartronate	222-5d			1 152 ¹⁵	88	156-8d		-117 3	78 32	di 198, dil al, 195-6d		93, al	

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS
Including esters of inorganic acids

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

No	Name	Boiling point °C	Melting point °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p Toluide	3,5-Di nitro benzoate	Miscellaneous	
						Equiv alent	Acid		Alcohol					
							M P °C	B P °C	M P °C					B P °C
219	Diethyl maleate	222.7	-17	1.44156	1.066	86	137		-117.3	78.32	mono 172.3, w 152.3 sl d di 181, me al	di 142, eth	93, al	
220	Methyl salicylate	224		1.5369	1.184	152	158.3		-97	64.65	142, 139	156	108 (cor), al	93, al
221	Ethyl <i>n</i> -butoxyethyl carbonate	224		1.4143 ²	0.9756 ²⁵	190			-117.3	78.32				
222	sec-Butyl levulinat	225.8		1.42495	0.96698	172	33.5	245.6		99.5	107.8d	108.9, w 75	76	Oxime, 96
223	<i>n</i> -Heptyl <i>n</i> -butyrate	225.87	-57.5	1.42279 ¹⁵ He (yel)	0.86371	186	-5.5 -8	162.5, 164	34.6 -33.8	176.8	115.6	75	46.47	
224	2,4-Dimethylphenyl acetate (unsym- <i>m</i> -Xylenyl acetate)	226 (cor)		1.4990 ¹⁵	1.0298 ^{15, 5}	164	16.6	118.2	27	211.5 (cor)	82	153, 147	164.6 (cor), 95°, al	
225	Methyl <i>n</i> -caprate (Methyl <i>n</i> -decanoate)	226		1.426	0.873	186	31.5	268.70	-97	64.65	108, 100 l	78	108 (cor), al	
226	<i>n</i> -Amyl <i>n</i> -caproate (<i>n</i> -Pentyl <i>n</i> -hexanoate)	226.16	-50, -47	1.42280 ¹⁵ He (yel)	0.86349	186	-3.9	205.35	-78.5	138 (cor)	100.1	74.5	46.4	
227	<i>n</i> -Butyl <i>n</i> -enanthate (<i>n</i> -Butyl <i>n</i> -heptanoate)	226.2		1.42280 ¹⁵	0.86382	186	-7.47	223	-90.2	117.6, 116	96.96.5	81	64, 62.5	
228	<i>n</i> -Hexyl <i>n</i> -valerate (<i>n</i> -Hexyl <i>n</i> -pentanoate)	226.3	-63.1	1.42286 ¹⁵	0.86345	186	-34.5	186.35	-51.6 -46.1	157.5	106	74	58.4 (cor)	
229	<i>n</i> -Propyl <i>n</i> -caprylate (<i>n</i> -Propyl <i>n</i> -octanoate)	226.43	-46.2	1.42351 ¹⁵ He (yel)	0.86591	186	16.3	237 239.3		97.1	110.106	57	74, pet eth	
230	Ethyl 2-toluate (Ethyl 2-methyl benzoate)	227		1.507 ^{21, 6}	1.0325 ^{21, 5}	164	104-5, 107.8	259 ⁷⁵¹	-117.3	78.32	142.8 (cor)	144	93, al	
231	Ethyl pelargonate	227	α -55.0, β -36.7	1.42200	0.8657	186	12.3	254.4	-117.3	78.32	99	84	93, al	N-(β -Aminoethyl) morpholide, 61.3
232	<i>l</i> -Menthyl acetate	227			0.9185	198	16.6	118.2	43	216	82	153, 147	153	
233	Ethyl phenylacetate	227.5		1.49921 ^{18, 6}	1.0333	164	76.5, subl	256.5 (cor)	-117.3	78.32	156	135-6	93, al	N-(β -Aminoethyl) morpholide, 88.9
234	<i>n</i> -Octyl propionate	227.9	-41.6	1.42185 ¹⁷ He (yel)	0.86633	186	-20.8	141	-16, -16.7	195	81, 81.3, 79	126, 123	61-2	
235	Diethyl itaconate	228		1.4377	1.0467	93	165		-117.3	78.32	di 191.2-8, al		93, al	

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point, °C	Melting point, °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p-Tolu- dide	3,5-Di- nitro- benzoate	Miscellaneous	
						Equiv- alent	Acid		Alcohol					
							M.P., °C	B.P., °C	M.P., °C					B.P., °C
236	Diethyl mesa- conate	229		1.4488	1.0453	93	204.5 (cor), subl		-117.3	78.32	mono (α) 222 (β) 174 di 176.5	mono (α) 196 di 212, al	93, al	
237	Di-isobutyl oxalate (Isobutyl oxalate)	229		1.4180	0.97373	101	189.5 (anh), 101 (+2 H ₂ O)			108.1	mono 219 di 419d	mono 169 di 268	87	
238	Allyl benzoate	230		1.0674	1.0578 ¹⁵	162	122.4	249		97.1	130	158	49, 50	
239	Isobutyl levulinate	230.9		1.42677	0.96770	172	33.5	245.6		108.1	107.8d	108.9, w	87	Semicarba- zone, 112, 3, Phenylhyd- razone, 84, 6, 2,4-Dinitro- phenylhyd- drazone, 55, 6, Oxime, 96
240	n-Propyl benzoate	231		1.500	1.023	164	122.4	249		97.1	130	158	74, pet eth	
241	Diethyl citra- conate	231		1.4442	1.0491	93	92d, eth lgr	206.11 sl d	-117.3	78.32	100.1		93, al	1-Naphthyl- amide, 169- 70
242	Methyl 3-chloro- benzoate	231				170.5	158, 155		-97	64.65	134		108 (cor), al	
243	β-Phenylethyl acetate	232, 224		1.5108	1.057 ^{22, 5}	164	16.6	118.2	-25.8	219.8	82	153 147	108	
244	Ethyl β-(2-furyl) acrylate	232	14	1.5286	1.0891 ¹⁵	166	141	286	-117.3	78.32	168.9, w		93, al	
245	Di-(β-methoxy- ethyl) carbonate	232		1.4193 ²⁰	1.0936 ²⁵	178				124.5				
246	Di-isoamyl car- bonate	233 (cor)		1.4174	0.9067	202			-117	132			61	
247	Diethyl glutarate	233.66	-23.8	1.02229	1.42395	94	98	302-4	-117.3	78.32	di 175-6	di 218	93, al	N-(β-Amino- ethyl) mor- pholide, 152, 7
248	Ethyl 3-toluate	234		1.505 ^{21, 4}	1.0265 ^{21, 4}	164	111.3, 110.1	263, subl	-117.3	78.32	94, 97	118	93, al	
249	Ethyl salicylate	234		1.52542	1.1396	166	158.3, subl at 76		-117.3	78.32	142, 139	156	93, al	
250	Methyl 2-chloro- benzoate	234				170.5	142, 144		-97	64.65	142, 202	131	108, (cor), al	
251	Ethyl 4-toluate	234.5		1.5089 ^{18, 2}	1.0269 ^{18, 2}	164	179.80, subl	275 (cor)	-117.3	78.32	160, 158	160, 165	93, al	
252	Diethyl bromo- malonate	235		1.4261 ₂		239	113d		-117.3	78.32	di 181, al	di 217, ac a	93, al	

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point, °C	Melting point, °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p-Toluide	3,5-Di-nitrobenzoate	Miscellaneous	
						Equivalent	Acid		Alcohol					
							M.P., °C	B.P., °C	M.P., °C					B.P., °C
253	Ethylene glycol di-n-butylate	235-77 ¹⁰		1.42619 ^{He}	1.0005	101	-5.5, -8	162.5, 164	-78.5	138 (cor)	115.6	75	46.4	
254	Diethyl butylmalonate	235-40			1.425	101			-117.3	78.32	di 200		93, al	
255	2,4,6-Trimethylphenyl acetate (Mesityl acetate)	236				178	16.6	118.2	70, 69	220	82	153, 147		
256	2,5-Dimethylphenyl acetate (p-Xylenyl acetate)	237 ⁶⁸			1.0264 ¹⁵	164	16.6	118.2	74.5	212	82	153, 147	137.2 (cor), al	
257	n-Butyl levulinate	237.8		1.42905	0.97353	172	33.5	245-6	-90.2	117.6, 116	107.8d	108-9, w	64, 62.5	Semicarbazone, 102-3, Phenylhydrazone, 79.81, 2,4-Dinitrophenylhydrazone, 65.8, Oxime, 96
258	Benzyl n-butyrate	238-40			1.033 ¹⁶	178	-5.5, -8	162.5, 164	-15.3	205.5	115-6	75	113	
259	Methyl hydrocinnamate (Methyl β-phenylpropionate)	239			1.0455 ⁹	164	48.7, 40	279-80 (cor)	-97	64.65	105, 82	135	108 (cor), al	
260	n-Propyl salicylate	239, 249-51		1.51610	1.0979	180	158.3			97.1	142, 139	156	74, pet eth	
261	Guaiacol acetate (2-Methoxyphenyl acetate)	240		1.5101 ²⁵	1.1285 ²⁵	166	16.6	118.2	32, 28.2	205	82	153, 147	141.2 (cor), al	
262	Isopropyl salicylate	240-2, 237		1.50650	1.0729	180	158.3, subl at 76		-89.5	82.4	142, 139	156	123, pet eth	
263	Dimethyl l-malate	242		1.4425	1.2334	81	100-1		-97	64.65	di 156-7	di 206-7	108 (cor), al	[α] _D ²⁰ -6.85
264	Geranyl acetate	242		1.4660	0.9174 ¹⁵	196	16.6	118.2		230	82	153, 147	62-3	
265	Isobutyl benzoate	242.2 (cor)			0.999	178	122.4	249		108.1	130	158	87	
266	Di-n-butyl oxalate (n-Butyl oxalate)	243, 245.5	-29.6	1.4240	0.98732	101	189.5 (anh), 101 (+ 2H ₂ O)		-90.2	117.6, 116	mono 219, di 419d	mono 169, di 268	64, 62.5	
267	Methyl 2-bromobenzoate	244				215	150		-97	64.65	155		108 (cor), al	
268	n-Octyl n-butyrate	244.1	-55.6	1.42674 ¹⁵ He (yel)	0.86288	200	-5.5, -8	162.5, 164	-16, -16.7	195	115.6	75	61.2	
269	Ethyl n-caprate (Ethyl n-decanoate)	244.9	β -20, γ -30.6	1.42575	0.8650	200	31.5	268.70	-117.3	78.32	108, 100.1	78	93, al	N-(β-Aminoethyl) morpholide, 60.1

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point °C	Melting point °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p-Toluene	3,5-Dinitrobenzoate	Miscellaneous	
						Equiv. valent	Acid		Alcohol					
							M.P. °C	B.P. °C	M.P. °C					B.P. °C
270	Diethyl adipate	245, 133.8 ¹⁵	-21	1.42765	1.0090	101	153-4 (cor)	216 ¹⁵	-117.3	78.32	mono 125, 30, w, di 220	241	93, al	N-(β-Aminoethyl) morpholide 165
271	Methyl phenoxyacetate	245			1.1501 ^{7, 5}	166	98.9	285d	-97	64.65	101.5		108 (cor), al	
272	Thymyl acetate	245			1.009 ⁰	192	16.6	118.2	51.5	233.5	82	153, 147	103.2 (cor), al	
273	Carvacryl acetate	245 (cor)		1.49128 ²⁸	0.98959 ²⁵	192	16.6	118.2	1	237.5	82	153, 147	83	
274	Diethylene glycol diacetate (β,β'-Diacetoxy diethyl ether)	245.51, 148 ²⁶		1.4348	1.10781 ⁵	95	16.6	118.2	-10.45	244.5	82	153, 147	149 ac a	
275	n-Butyl n-caprylate (n-Butyl n-octanoate)	245.02	-41.9, -43	1.42647 ¹³	0.86278	200	16.3	237	-90.2	117.6, 116	110, 106	70	64, 62.5	
276	n-Heptyl n-valerate (n-Heptyl n-pentanoate)	245.2	-46.4	1.42536 ¹⁵	0.86225	200	-34.5	186.35	-34.6, -33.8	176.8	106	74	46, 47	
277	n-Amyl n-enanthate (n-Pentyl n-heptanoate)	245.4	-49.5	1.42627 ¹³	0.86232	200	-7.47	223	-78.5	138 (cor)	96, 96.5	81	46.4	
278	n-Hexyl n-caproate (n-Hexyl n-decanoate)	245.4	-55.25	1.42637 ¹³	0.86216	200	-3.9	205.35	-51.6, -46.1	157.5	100, 1	74.5	58.4 (cor)	
279	Di-(β-ethoxyethyl) carbonate	245.5		1.4239 ²⁵	1.0635 ²⁵	206				135			75, al	
280	Diethylene glycol monobutyl ether acetate	246			0.983	204	16.6	118.2		228-30	82	153, 147		
281	Isobutyl phenylacetate	247			0.999 ¹⁸	192	76.5 (cor)	256.5 (cor)		108.1	156	135-6	87	
282	Ethyl hydrocinnamate (Ethyl β-phenylpropionate)	247.2			1.0147	178	40, 48.7	279-80 (cor)	-117.3	78.32	105, 82	135	93, al	
283	Di-n-propyl succinate	248, 246	-10.4	1.4252	1.011	101	185, 182.8	235d		97.1	mono 157, di 260d, w	mono 179, 80, di 254.5, 55, 260	74, pet eth	
284	Methyl 2-methoxybenzoate	248		1.534 ^{19, 5}	1.1571 ¹⁹	166	100.1	200	-97	64.65	129		108 (cor), al	
285	Methyl undecylenate (Methyl hendecylenate)	248	-27.5	1.43928	0.889 ¹⁵	198	24.5	275	-97	64.65	87		108 (cor), al	

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point, °C	Melting point, °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p-Tolu-dide	3,5-Di-nitro-benzoate	Miscellaneous	
						Equiv-alent	Acid		Alcohol					
							M P, °C	B P °C	M P °C					B P °C
286	Isoamyl levulinate	248.8		1.43102	0.96136	186	33.5	245.6	-117	132	107.8d	108.9, w	61	Semicarba- zone, 91-2, Phenylhyd- razone, 70.2, 2,4-Dinitro- phenylhyd- razone, 50.5 Oxime, 96
287	Diethyl acetone-dicarboxylate	250d			1.113	101	135		-117.3	78.32			93, al	Dianilide, 155, bz, Semicarba- zone, 94.5, Cu(OAc) ₂ → Cu enolate, 142.3, grn bz
288	n-Butyl benzoate	250.3	-22.4		1.000	178	122.4	249	-90.2	117.6, 116	130	158	64 62.5	
289	Ethyl phenoxy-acetate	251			1.104 ^{17.5}	180	98-9	285d	-117.3	78.32	101.5		93, al	
290	Methyl 3-methoxybenzoate	252		1.52236	1.131	166	109-10		-97	64.65			108 (cor), al	α-Phenyl- ethylamide, 128.6, 9.0, Benzyl- amide, 111.8, 2.8
291	Diethyl l-malate	253		1.4362	1.1290	95	100-1		-117.3	78.32	dl 156.7	dl 206.7	93, al	[α] _D ²⁰ -10.18
292	n-Amyl levulinate (n-Pentyl levulinate)	253.4		1.43192	0.96136	186	33.5	245.6	-78.5	138 (cor)	107.8d	108.9, w	46.4	2,4-Dinitro- phenylhyd- razone, 84.2, Oxime, 96
293	n-Butyl phenyl-acetate	254		1.489	0.994	192	76.5, subl 122.4	256.5 (cor) 249	-90.2	117.6, 116	156	135.6	64, 62.5	
294	β-Methoxyethyl benzoate (Methyl "cellosolve" benzoate)	255		1.5040 ²⁵	1.0891 ²⁵	180				124.5	130	158		4-Nitro- benzoate, 50.5, dil al
296	Diethyl pimelate	255	-23.8	1.42985	0.9929	108	105	223 ¹⁵	-117.3	78.32	dl 175	dl 206, al	93, al	N-(β-Amino- ethyl) mor- pholide, 137.9
297	Ethyl benzoyl-formate	256-7		1.5190 ²⁵	1.222 ²⁵	178	66		-117.3	78.32	91		93, al	Phenylhyd- razone, 64, 2,4-Di- nitro- phenylhyd- razone, 196.7d (cor)

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point, °C	Melting point °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p Toluide	3,5-Di-nitrobenzoate	Miscellaneous	
						Equiv- alent	Acid		Alcohol					
							M P °C	B P °C	M P °C					B P °C
298	Glyceryl triacetate	258			1.161 ¹⁵	72.7	16.6	118.2	17.9	290d	82	153 147	Tris-4-nitrobenzoate, 188	
299	Ethyl 3-methoxybenzoate	260		1.5161	1.0993	180	109.10		-117.3	78.32		153 147	Benzylamide, 111.8 2,8,α-Phenylethylamide, 128.6-9.0	
300	β-Ethoxyethyl benzoate ("Cello-solve" benzoate)	260-173 ⁵		1.4969 ²⁵	1.0585 ²⁵	194	122.4	249		135	130	158	75, al	
301	Isobutyl salicylate	260.2		1.50872	1.0639	194	158.3, subl at 76			108.1	142, 139	156	87	
302	n-Amyl n-caprylate (n-Pentyl n-octanoate)	260.21	-34.8	1.43019 ¹⁵ He (yel)	0.86132	214	16.3	237 239.3	-78.5	138 (cor)	110, 106	70	46.4	
303	n-Hexyl n-enanthate (n-Hexyl n-heptanoate)	260.9	-47.9	1.42939 ¹ He (yel)	0.86114	214	-7.47	223	-51.6, -46.1	157.5	96.96.5	81	58.4 (cor)	
304	n-Heptyl n-caproate (n-Heptyl n-hexanoate)	260.97	-34.4	1.42934 ¹⁵ He (yel)	0.86115	214	-3.9	205.35	-34.6, -33.8	176.8	100.1	74.5	46.47	
305	Ethyl 2-methoxybenzoate	261		1.5224	1.1124	261	100.1	200	-117.3	78.32	129		93, al	
306	n-Octyl n-valerate (n-Octyl n-pentanoate)	261.1	-42.5	1.42743 ¹⁵ He (yel)	0.86148	214	-34.5	186.35	-16 -16.7	195	106	74	61.2	
307	Isoamyl benzoate	262.3		1.4950	1.004	192	122.4	249	-117	132	130	158	61	
308	Dimethyl d-camphorate	263		1.46334 ^{16.9}	1.0747	114	187.5 8.0		-97	64.65	mono (α-amide β-acid), 176, (β-amide- α-acid), 182.3, di 192-3	α 212.4, β 190-6	108 (cor), al	
309	Ethyl undecylenate (Ethyl hendecylenate)	264		1.4449 ²³	0.88271 ¹⁵	212	24.5	275	-117.3	78.32	87		93, al	
310	Isobutyl succinate	265		1.427	0.974	115	185, 182.8	235d		108.1	mono 157, di 260d, w	mono 179 80, di 254.5 5.5, 260	87	

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point °C	Melting point °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p-Tolu- dide	3,5-Di- nitro- benzoate	Miscellaneous		
						Equiv- alent	Acid		Alcohol						
							M P, °C	B P °C	M P °C					B P, °C	
311	Ethyl benzoyl- acetate	265 sl d, 270 d		1.5498	1.116	192			-117.3	78.32			93, al	Ketone cleavage → aceto- phenone, m p 19.65, b p 202	
312	Di-isoamyl oxa- late (Isoamyl oxalate)	267.8, 262		1.427	0.961	115	189.5 (anh) 101 (+ 2H ₂ O)		-117	132	mono 219, di 419d	mono 169, di 268	61		
313	Dimethyl suberate	268	-5	1.43326	1.0198	101	144, 139-41		-97	64.65	mono 125.7, di 216.7	di 218, 219	108 (cor), al		
314	Methyl laurate	268		1.432	0.870	214	44, 42	299	-97	64.65	100, 99	87	108 (cor), al	β-Naphthol → β- naphthyl methyl ether, 72	
315	Ethyl 4-methoxy- benzoate (Ethyl anisate)	269	7	1.5254	1.1038	180	184.6, 184.2 (cor)	275.80	-117.3	78.32	167, 162.3, w	186	93, al	N-(β-Amino- ethyl) mor- pholide, 130.6	
316	Ethyl laurate	269	-1.7	1.4321	0.8671 ₁₈	228	44, 42	299	-117.3	78.32	100, 99	87	93, al		
317	Trimethyl aconitate	270				72	194-5 (cor) d		-97	64.65	tri turns br at 250, sinters at 260		108 (cor), al		
318	n-Butyl salicylate	270-2, 268		1.51148	1.0728	194	158.3, subl at 76		-90.2	117.6, 116	142, 139	156	64, 62.5		
319	Ethyl cinnamate	271	6.70	1.55982	1.0490	176	133	300	-117.3	78.32	147-8	168	93, al	N-(β-Amino- ethyl) mor- pholide, 121.9	
320	Di-n-butyl suc- cinate	274.5	-29.3	1.4298	0.9760	115	185, 182.8	235d	-90.2	117.6, 116	mono 157, di 260d, w	mono 179 80, di 254.5 -5.5, 260	64, 62.5		
321	Ethyl 2-nitro- benzoate	275	30			195	146		-117.3	78.32	176		93, al		
322	Triethyl aconitate	275d		1.45562	1.1064	86	194-5 (cor)		-117.3	78.32	tri turns br at 250, sinters at 260		93, al		
323	Di-isopropyl d- tartarate	275			1.1274	117	169.71		-89.5	82.4	mono 171-2, di 196d, al		123, pet eth	[α] _D ²⁰ +14.886, Phenylhyd- razide, 240	
324	Ethyl 4-ethoxy- benzoate	275			1.076 ²¹	194	198, 195-6		-117.3	78.32	202		93, al	Hydrazide, 126-7, al	

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point °C	Melting point °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p Toluide	3,5-Di-nitrobenzoate	Miscellaneous	
						Equiv alent	Acid		Alcohol					
							M P °C	B P °C	M P °C					B P °C
325	<i>n</i> -Octyl <i>n</i> -caproate (<i>n</i> Octyl <i>n</i> hexanoate)	275.2	-28.4	1.43256 ¹⁵ He (yel)	0.86032	228	-3.9	205.35	-16 -16.7	195	100.1	74.5	61.2	
326	Isoamyl salicylate	276.8		1.50799	1.0535	208	158.3 subl at 76		-117	132	142.139	156	61	
327	<i>n</i> -Heptyl <i>n</i> -enanthate (<i>n</i> Heptyl <i>n</i> heptanoate)	277.2	-33.3	1.43183 He (yel)	0.86039	228	-7.47	223.0	-34.6 -33.8	176.8	96.965	81	46.47	
328	<i>n</i> -Hexyl <i>n</i> -caprylate (<i>n</i> Hexyl <i>n</i> octanoate)	277.44	-30.6	1.43230 ¹ He (yel)	0.86033	228	16.3	237 239.3	-51.6 -46.1	157.5	110.106	70	58.4 (cor)	
329	Resorcinol diacetate	278 sl d			1.179	97	16.6	118.2	110 (stab) 108 8.5 (labile)	280.8 (cor)	82	153 147	di 201	
330	Diethyl suberate	282	5.9	1.43236	1.9807	115	144 139.41		-117.3	78.32	mono 125.7 di 216-7	di 218-9	93 al	N-(β-Aminoethyl) morpholide, 157.2
331	Resorcinol monoacetate	283				152	16.6	118.2	110 (stab) 108- 8.5 (labile)	280.8 (cor)	82	153 147	di 201	
332	Dimethyl phthalate (Methyl phthalate)	283.8		1.5138	1.191	97	200.6 191 (sealed tube)		-97	64.65	mono 149 di 220	mono 150 (slow htng) 160.5 (rapid htng)	108 (cor) al	
333	Diethyl isophthalate	286 ⁷³³	11.5			111	348 (subl)		-117.3	78.32	mono 280 di 280		93 al	
334	Diethyl <i>d</i> -camphorate	286		1.45354 ^{26 2}	1.0298	128	187.5- 8.0		-117.3	78.32	mono (α amide β-acid) 176 (β amide- α-acid) 182.3, di 192.3	α 212- 4 β 190-6	93, al	
335	Glyceryl tripropionate	289			1.083 ¹⁹	86.7	-20.8	141	17.9	290d	81.813, 79	126 123		Tris-4-nitrobenzoate, 188

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point, °C	Melting point °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p-Toluidide	3,5-Dinitrobenzoate	Miscellaneous	
						Equiv alent	Acid		Alcohol					
							M P °C	B P °C	M P °C					B P °C
336	Diethyl phthalate (Ethyl phthalate)	289.5, 298		1.5019	1.1175	111	200.6, 191 (sealed tube)		-117.3	78.32	mono 149, di 220	mono 150 (slow htng), 160.5 (rapid htng)	93, al	
337	n-Heptyl n-caprylate (n-Heptyl n-octanoate)	290.6	-10.2	1.43492 ¹ He (yel)	0.85958	242	16.3	237, 239.3	-34.6, -33.8	176.8	110, 106	70	46, 47	
338	n-Octyl n-enanthate (n-Octyl n-heptanoate)	290.8	-21.5	1.43488 ¹ He (yel)	0.85961	242	-7.47	223.0	-16, -16.7	195	96, 96.5	81	61.2	
339	Diethyl azelate	291	-18.5	1.43509	0.97294	122	106.5	>360 sl d 237 ¹⁵	-117.3	78.32	mono 93.5, di 175	di 201-2	93, al	N-(β-Aminoethyl) morpholide, 141.3
340	Triethyl citrate	294		1.44554	1.1369	92	153 (anh) 100 (+1 H ₂ O)		-117.3	78.32	tri 210.5d, w	tri 189, al	93, al	
341	Ethyl myristate	295	α 11.9 β 12.3	1.4362	0.8573 ²⁵	256	53.9	202 ¹⁶	-117.3	78.32	103	93	93, al	N-(β-Aminoethyl) morpholide, 76
342	Di-n-propyl d-tartarate	297			1.1390	117	169.71			97.1	mono 171-2, di 196d, al		74, pet eth	[α] _D ²⁰ +12.00, Phenylhydrazide, 240
343	Isoamyl succinate	297		1.434	0.958	129	185, 182.8	235d	-117	132	mono 157, di 260d, w	mono 179-80, di 254.5, 5.5, 260	61	
344	Di-(β-n-butoxyethyl) carbonate	297.8		1.4279 ²⁵	0.9766 ⁶⁵	262					170.6 ⁷⁴³			
345	Diethyl benzylmalonate	300			1.077 ¹⁵	125	117d		-117.3	78.32	225		93, al	
346	α-Tetrahydrofurfuryl benzoate	300.2 ⁵⁰			1.137 ²⁰	206	122.4	249		177.8 ⁷⁴³	130	158	83-4	
347	Di-isopropyl phthalate (Iso-propyl phthalate)	302			1.065 ¹⁹	115	200.6, 191 (sealed tube)		-89.5	82.4	mono 149, di 220	mono 150 (slow htng), 160-5 (rapid htng)	123, pet eth	
348	n-Octyl n-caprylate (n-Octyl n-octanoate)	306.8	-15.1	1.43698 ¹⁵ He (yel)	0.85919	256	16.3	237, 239.3			110, 106	70	61.2	

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS

Including esters of inorganic acids

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

No	Name	Boiling point, °C	Melting point °C	n _D ²⁰	D ₄ ²⁰	Equiv- alent	Saponification				Amide	p-Tolui- dide	3,5-Di- nitro- benzoate	Miscellaneous
							Acid		Alcohol					
							M P, °C	B P °C	M P, °C	B P °C				
349	Diethyl sebacate	307	1 3	1 43657	0 9631	129	33, subl	243 ¹⁵	-117 3	78 32	mono 170 di 210, 208	di 201	93, al	
350	2-Tolyl benzoate ("o-Cresyl" benzoate)	307			1 114 ¹⁹	212	122 4	249	31	191 2	130	158	138 4 (cor), al	
351	Ethyl 1-naph- thoate	309			1 1274 ¹³	200	161 2 (cor)		-117 3	78 32	202 205		93, al	
352	Glyceryl tri- butyrate	318			1 033 ¹	100 7	-5 5 -8	162 5, 164	17 9	290d	115 6	75		Tris-4-nitro- benzoate, 188
353	Di-n-butyl d,l- tartarate (Di-n- butyl racemate)	320			1 0879 ¹⁸	131	205 6 (anh), 203-4 (+1 H ₂ O)		-90 2	117 6, 116	di 226, w-me al		64, 62 5	Diamide, 235-6
354	Benzyl salicylate	320				228	158 3, subl at 76		-15 3	205 5	142, 139	156	113	
355	Di-n-butyl phthalate (n Butyl phthalate)	340 7		1 4900	1 047 ²⁰	139	200 6, 191 (sealed tube)		-90 2	117 6, 116	mono 149, di 220	mono 150 (slow htng), 160 5 (rapid htng)	64, 62 5	N-(β-Amino- ethyl) mor- pholide, 124
356	Di-n-butyl sebacate	345			0 9329 ¹⁵	157	133, subl	243 ¹⁵	-90 2	117 6, 119	mono 126 5, di 210, 208	di 201	64, 62 5	Phenylhyd- razide, 194
357	Di-isoamyl phthal- ate (Isoamyl phthalate)	349			1 024 ¹⁷	153	200-6, 191 (sealed tube)		-117	132	mono 149, di 220	mono 150 (slow htng), 160-5 (rapid htng)	61	
358	Tricresyl phos- phate	400d, 275 80 ²⁰	-30	1 5568	1 197 ²⁵	122 7			36	202 32			188 6 (cor), al	

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

TABLE XVI. ORGANIC DERIVATIVES OF ESTERS
 Reduced pressure b.p. only
 a) Liquids. 2) (Listed in order of increasing m.p. of the corresponding amide)*

No	Name	Boiling point °C	Melting point, °C	n _D ²⁰	D ₄ ²⁰	Saponification				Amide	p-Tolu- dide	3,5-Di- nitro- benzoate	Miscellaneous	
						Equiv- alent	Acid		Alcohol					
							M P, °C	B P °C	M P, °C					B P, °C
1	3,5-Dimethylphenyl acetate (<i>Sym-m-Xylenyl</i> acetate)	130 ²⁶ , 120 ¹¹				164	16.6	118.2	63.2 68	220.2	82	153, 147	195.4, al	
2	Dimethyl azelate	156 ²⁰ , 146.2 ¹⁰		1.43607	1.0069	108	106	>360 sl d	-97	64.65	<i>mono</i> 93.5, <i>di</i> 172	<i>di</i> 201.2, 198	108 (cor), al	
3	Dimethyl adipate	107.6 ¹¹	8.5	1.4277	1.0625	87	153.4 (cor)	216 ¹⁵	-97	64.65	<i>mono</i> 125 30, w, <i>di</i> 220	241	108 (cor), al	
4	<i>β-n</i> -Butoxyethyl benzoate (Butyl "cellosolve" benzoate)	156.5 70 ¹⁴ , 131.6 26 ³⁰		1.4925 ²⁵	1.0277 ²⁵	222	122.4	249		170 6 ¹¹	130	158		4-Nitro- phenylure- thane, 58.7 9.1, CCl ₄
5	Ethyl furoylacetate	170 ²⁰ 143 ¹⁰		1.5055 ¹⁶	1.165 ¹⁷				-117.3	78.32	159, al		93, al	Oxime, 131.2, di, al
6	Methyl furoylacetate	144.5 ²⁰ , 96-8 ¹							-97	64.65	159, al		108 (cor), al	Semicarba- zone, 141- 2, bz-al (3.1), Oxime, 124.5, bz
7	Di- <i>n</i> -propyl adipate	155 ¹⁶	-20	1.4314	0.9790	115	153.4			97.1	<i>mono</i> 161 <i>di</i> 220	<i>di</i> 241	74, pet eth	
8	Dimethyl pimelate	119.3 9.6 ¹⁰	-20.6	1.42888	1.0383	94	105		-97	64.65	<i>di</i> 175	<i>di</i> 206, al	108 (cor), al	
9	Di- <i>n</i> -propyl maleate	114-7 ⁶		1.444 ^{14.3}	1.026	100	137			97.1	<i>di</i> 181, me al	<i>mono</i> 195d, chl, <i>di</i> 142, eth	74, pet eth	

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