

*Appendix (A)***Table A1.** Crystal data and structure refinement for Compound **(60)**

Empirical formula	C <sub>15</sub> H <sub>20</sub> O <sub>4</sub>	
Formula weight	264.31	
Temperature	293(2) K	
Wavelength	0.71073 Å	
Crystal system	Orthorhombic	
Space group	P 2 <sub>1</sub> 2 <sub>1</sub> 2 <sub>1</sub>	
Unit cell dimensions	a = 8.4056(5) Å	a = 90°.
	b = 12.1568(7) Å	b = 90°.
	c = 13.6101(8) Å	g = 90°.
Volume	1390.75(14) Å <sup>3</sup>	
Z	4	
Density (calculated)	1.262 Mg/m <sup>3</sup>	
Absorption coefficient	0.091 mm <sup>-1</sup>	
F(000)	568	
Crystal size	0.48 x 0.28 x 0.20 mm <sup>3</sup>	
Theta range for data collection	2.85 to 26.54°.	
Index ranges	-10<=h<=4, -14<=k<=13, -16<=l<=14	
Reflections collected	7595	
Independent reflections	1575 [R(int) = 0.0284]	
Completeness to theta = 25.00°	99.9 %	
Absorption correction	Semi-empirical from equivalents	
Max. and min. transmission	0.980 and 0.886	
Refinement method	Full-matrix least-squares on F <sup>2</sup>	
Data / restraints / parameters	1575 / 0 / 172	
Goodness-of-fit on F <sup>2</sup>	1.088	
Final R indices [I>2sigma(I)]	R1 = 0.0320, wR2 = 0.0892	
R indices (all data)	R1 = 0.0345, wR2 = 0.0929	

Extinction coefficient	0
Largest diff. peak and hole	0.175 and -0.161 e.Å <sup>-3</sup>

**Table A2.** Atomic coordinates ( $\times 10^4$ ) and equivalent isotropic displacement Parameters. ( $\text{Å}^2 \times 10^3$ ) for Compound (**60**).  $U(\text{eq})$  is defined as one third of the trace of the orthogonalized  $U_{ij}$  tensor.

	x	y	z	U(eq)
O(1)	12211(2)	7570(1)	8349(1)	49(1)
O(2)	9411(2)	5125(1)	10447(1)	47(1)
O(3)	11302(2)	4848(1)	11570(1)	60(1)
O(4)	5113(2)	6516(1)	7931(1)	47(1)
C(1)	6570(2)	7080(2)	7752(1)	40(1)
C(2)	6629(2)	7526(2)	6707(2)	50(1)
C(3)	8167(3)	8162(2)	6522(2)	55(1)
C(4)	9620(2)	7526(2)	6837(1)	42(1)
C(5)	9520(2)	7146(1)	7896(1)	35(1)
C(6)	11082(2)	6697(1)	8337(1)	35(1)
C(7)	10731(2)	6346(1)	9384(1)	35(1)
C(8)	9388(2)	5512(2)	9420(1)	36(1)
C(9)	7837(2)	5997(2)	9100(1)	39(1)
C(10)	8035(2)	6375(1)	8016(1)	35(1)
C(11)	11915(2)	5800(2)	10046(1)	38(1)
C(12)	10916(2)	5206(2)	10778(1)	43(1)
C(13)	13481(2)	5730(2)	10047(2)	50(1)
C(14)	8155(2)	5359(2)	7345(1)	44(1)
C(15)	10805(3)	7327(2)	6235(2)	64(1)

**Table A3.** Bond lengths [Å] and angles [°] for Compound (**60**)

O(1)-C(6)	1.423(2)	C(9)-H(9A)	0.9700
O(1)-H(10)	0.8200	C(9)-H(9B)	0.9700
O(2)-C(12)	1.346(2)	C(10)-C(14)	1.539(2)
O(2)-C(8)	1.474(2)	C(11)-C(13)	1.319(3)
O(3)-C(12)	1.207(2)	C(11)-C(12)	1.489(3)
O(4)-C(1)	1.424(2)	C(13)-H(13A)	0.9300
O(4)-H(4O)	0.8200	C(13)-H(13B)	0.9300
C(1)-C(2)	1.523(3)	C(14)-H(14A)	0.9600
C(1)-C(10)	1.544(2)	C(14)-H(14B)	0.9600
C(1)-H(1)	0.9800	C(14)-H(14C)	0.9600
C(2)-C(3)	1.527(3)	C(15)-H(15A)	0.9300
C(2)-H(2A)	0.9700	C(15)-H(15B)	0.9300
C(2)-H(2B)	0.9700		
C(3)-C(4)	1.508(3)	C(6)-O(1)-H(10)	109.5
C(3)-H(3A)	0.9700	C(12)-O(2)-C(8)	107.83(13)
C(3)-H(3B)	0.9700	C(1)-O(4)-H(4O)	109.5
C(4)-C(15)	1.312(3)	O(4)-C(1)-C(2)	111.03(15)
C(4)-C(5)	1.515(2)	O(4)-C(1)-C(10)	112.23(14)
C(5)-C(6)	1.543(2)	C(2)-C(1)-C(10)	112.93(15)
C(5)-C(10)	1.571(2)	O(4)-C(1)-H(1)	106.7
C(5)-H(5)	0.9800	C(2)-C(1)-H(1)	106.7
C(6)-C(7)	1.516(2)	C(10)-C(1)-H(1)	106.7
C(6)-H(6)	0.9800	C(1)-C(2)-C(3)	111.20(16)
C(7)-C(11)	1.498(2)	C(1)-C(2)-H(2A)	109.4
C(7)-C(8)	1.518(2)	C(3)-C(2)-H(2A)	109.4
C(7)-H(7)	0.9800	C(1)-C(2)-H(2B)	109.4
C(8)-C(9)	1.496(2)	C(3)-C(2)-H(2B)	109.4
C(8)-H(8)	0.9800	H(2A)-C(2)-H(2B)	108.0
C(9)-C(10)	1.553(2)	C(4)-C(3)-C(2)	112.31(16)

C(4)-C(3)-H(3A)	109.1	C(7)-C(8)-H(8)	108.9
C(2)-C(3)-H(3A)	109.1	C(8)-C(9)-C(10)	107.44(13)
C(4)-C(3)-H(3B)	109.1	C(8)-C(9)-H(9A)	110.2
C(2)-C(3)-H(3B)	109.1	C(10)-C(9)-H(9A)	110.2
H(3A)-C(3)-H(3B)	107.9	C(8)-C(9)-H(9B)	110.2
C(15)-C(4)-C(3)	122.06(19)	C(10)-C(9)-H(9B)	110.2
C(15)-C(4)-C(5)	125.44(19)	H(9A)-C(9)-H(9B)	108.5
C(3)-C(4)-C(5)	112.49(16)	C(14)-C(10)-C(1)	111.05(14)
C(4)-C(5)-C(6)	115.51(15)	C(14)-C(10)-C(9)	109.49(14)
C(4)-C(5)-C(10)	108.96(15)	C(1)-C(10)-C(9)	107.46(14)
C(6)-C(5)-C(10)	115.11(13)	C(14)-C(10)-C(5)	111.42(14)
C(4)-C(5)-H(5)	105.4	C(1)-C(10)-C(5)	106.13(13)
C(6)-C(5)-H(5)	105.4	C(9)-C(10)-C(5)	111.18(14)
C(10)-C(5)-H(5)	105.4	C(13)-C(11)-C(12)	122.04(18)
O(1)-C(6)-C(7)	109.20(14)	C(13)-C(11)-C(7)	133.81(18)
O(1)-C(6)-C(5)	107.95(13)	C(12)-C(11)-C(7)	104.05(15)
C(7)-C(6)-C(5)	107.41(13)	O(3)-C(12)-O(2)	121.70(18)
O(1)-C(6)-H(6)	110.7	O(3)-C(12)-C(11)	128.35(18)
C(7)-C(6)-H(6)	110.7	O(2)-C(12)-C(11)	109.94(15)
C(5)-C(6)-H(6)	110.7	C(11)-C(13)-H(13A)	120.0
C(11)-C(7)-C(6)	124.10(15)	C(11)-C(13)-H(13B)	120.0
C(11)-C(7)-C(8)	100.26(14)	H(13A)-C(13)-H(13B)	120.0
C(6)-C(7)-C(8)	111.36(14)	C(10)-C(14)-H(14A)	109.5
C(11)-C(7)-H(7)	106.6	C(10)-C(14)-H(14B)	109.5
C(6)-C(7)-H(7)	106.6	H(14A)-C(14)-H(14B)	109.5
C(8)-C(7)-H(7)	106.6	C(10)-C(14)-H(14C)	109.5
O(2)-C(8)-C(9)	114.41(14)	H(14A)-C(14)-H(14C)	109.5
O(2)-C(8)-C(7)	103.56(13)	H(14B)-C(14)-H(14C)	109.5
C(9)-C(8)-C(7)	112.04(14)	C(4)-C(15)-H(15A)	120.0
O(2)-C(8)-H(8)	108.9	C(4)-C(15)-H(15B)	120.0
C(9)-C(8)-H(8)	108.9	H(15A)-C(15)-H(15B)	120.0

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Symmetry transformations used to generate equivalent atoms:

**Table A4.** Anisotropic displacement parameters ( $\text{\AA}^2 \times 10^3$ ) Compound **(60)**

The anisotropic displacement factor exponent takes the form:

$$-2p^2 [ h^2 a^{*2} U^{11} + \dots + 2 h k a^* b^* U^{12} ]$$

	$U^{11}$	$U^{22}$	$U^{33}$	$U^{23}$	$U^{13}$	$U^{12}$
O(1)	33(1)	44(1)	68(1)	8(1)	3(1)	-8(1)
O(2)	37(1)	60(1)	43(1)	15(1)	2(1)	-5(1)
O(3)	55(1)	77(1)	47(1)	21(1)	-5(1)	-4(1)
O(4)	30(1)	63(1)	47(1)	-5(1)	0(1)	-2(1)
C(1)	32(1)	43(1)	46(1)	-3(1)	-2(1)	1(1)
C(2)	41(1)	56(1)	53(1)	10(1)	-8(1)	2(1)
C(3)	52(1)	57(1)	56(1)	19(1)	-6(1)	-2(1)
C(4)	42(1)	42(1)	43(1)	7(1)	1(1)	-4(1)
C(5)	32(1)	34(1)	40(1)	0(1)	3(1)	-1(1)
C(6)	30(1)	35(1)	41(1)	2(1)	4(1)	-2(1)
C(7)	31(1)	37(1)	37(1)	-1(1)	2(1)	-1(1)
C(8)	33(1)	41(1)	33(1)	3(1)	2(1)	-3(1)
C(9)	30(1)	47(1)	41(1)	1(1)	4(1)	-3(1)
C(10)	30(1)	36(1)	38(1)	-1(1)	2(1)	-1(1)
C(11)	37(1)	40(1)	37(1)	0(1)	-2(1)	-2(1)
C(12)	41(1)	47(1)	42(1)	4(1)	-1(1)	0(1)
C(13)	39(1)	61(1)	51(1)	7(1)	-5(1)	-1(1)
C(14)	45(1)	41(1)	46(1)	-6(1)	-1(1)	0(1)
C(15)	69(2)	76(2)	47(1)	14(1)	12(1)	11(1)

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**Table A5.** Hydrogen coordinates (  $\times 10^4$ ) and isotropic displacement parameters ( $\text{\AA}^2 \times 10^3$ ) for Compound **(60)**

	x	y	z	U(eq)
H(10)	13088	7332	8192	58
H(40)	4945	6079	7484	56
H(1)	6584	7719	8192	49
H(2A)	5726	8008	6598	60
H(2B)	6554	6920	6245	60
H(3A)	8250	8330	5827	66
H(3B)	8130	8852	6877	66
H(5)	9272	7808	8277	42
H(6)	11480	6076	7950	42
H(7)	10352	7002	9730	42
H(8)	9652	4894	8987	43
H(9A)	7561	6618	9513	47
H(9B)	6997	5452	9149	47
H(13A)	13995	5300	10515	60
H(13B)	14072	6111	9580	60
H(14A)	9095	4949	7507	66
H(14B)	8208	5592	6671	66
H(14C)	7235	4903	7437	66
H(15A)	10764	7582	5591	77
H(15B)	11685	6932	6452	77

**Table A6.** Torsion angles [°] for Compound (60)

O(4)-C(1)-C(2)-C(3)	178.31(16)	O(4)-C(1)-C(10)-C(5)	-173.72(15)
C(10)-C(1)-C(2)-C(3)	-54.6(2)	C(2)-C(1)-C(10)-C(5)	59.84(19)
C(1)-C(2)-C(3)-C(4)	49.6(2)	C(8)-C(9)-C(10)-C(14)	70.54(18)
C(2)-C(3)-C(4)-C(15)	125.2(2)	C(8)-C(9)-C(10)-C(1)	-168.74(14)
C(2)-C(3)-C(4)-C(5)	-54.0(2)	C(8)-C(9)-C(10)-C(5)	-53.00(19)
C(15)-C(4)-C(5)-C(6)	12.6(3)	C(4)-C(5)-C(10)-C(14)	59.78(18)
C(3)-C(4)-C(5)-C(6)	-168.24(16)	C(6)-C(5)-C(10)-C(14)	-71.82(19)
C(15)-C(4)-C(5)-C(10)	-118.7(2)	C(4)-C(5)-C(10)-C(1)	-61.23(17)
C(3)-C(4)-C(5)-C(10)	60.4(2)	C(6)-C(5)-C(10)-C(1)	167.17(14)
C(4)-C(5)-C(6)-O(1)	63.38(19)	C(4)-C(5)-C(10)-C(9)	-177.79(14)
C(10)-C(5)-C(6)-O(1)	-168.22(14)	C(6)-C(5)-C(10)-C(9)	50.62(19)
C(4)-C(5)-C(6)-C(7)	-178.99(14)	C(6)-C(7)-C(11)-C(13)	19.5(3)
C(10)-C(5)-C(6)-C(7)	-50.58(19)	C(8)-C(7)-C(11)-C(13)	144.2(2)
O(1)-C(6)-C(7)-C(11)	-67.1(2)	C(6)-C(7)-C(11)-C(12)	-156.89(16)
C(5)-C(6)-C(7)-C(11)	176.07(16)	C(8)-C(7)-C(11)-C(12)	-32.16(17)
O(1)-C(6)-C(7)-C(8)	173.17(13)	C(8)-O(2)-C(12)-O(3)	-173.07(19)
C(5)-C(6)-C(7)-C(8)	56.35(18)	C(8)-O(2)-C(12)-C(11)	8.3(2)
C(12)-O(2)-C(8)-C(9)	-151.44(17)	C(13)-C(11)-C(12)-O(3)	20.7(4)
C(12)-O(2)-C(8)-C(7)	-29.20(19)	C(7)-C(11)-C(12)-O(3)	-162.4(2)
C(11)-C(7)-C(8)-O(2)	37.20(16)	C(13)-C(11)-C(12)-O(2)	-160.8(2)
C(6)-C(7)-C(8)-O(2)	170.25(14)	C(7)-C(11)-C(12)-O(2)	16.1(2)
C(11)-C(7)-C(8)-C(9)	161.00(14)		
C(6)-C(7)-C(8)-C(9)	-65.95(19)		
O(2)-C(8)-C(9)-C(10)	179.04(14)		
C(7)-C(8)-C(9)-C(10)	61.56(18)		
O(4)-C(1)-C(10)-C(14)	65.03(19)		
C(2)-C(1)-C(10)-C(14)	-61.4(2)		
O(4)-C(1)-C(10)-C(9)	-54.70(18)		
C(2)-C(1)-C(10)-C(9)	178.87(15)		

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Symmetry transformations used to generate equivalent atoms:

**Table A7.** Hydrogen bonds for Compound **(60)** [ $\text{\AA}$  and  $^\circ$ ].

D-H...A	d(D-H)	d(H...A)	d(D...A)	$\angle(\text{DHA})$
O(1)-H(1O)...O(4)#1	0.82	2.00	2.8139(19)	170.1
O(4)-H(4O)...O(3)#2	0.82	1.98	2.756(2)	157.9

Symmetry transformations used to generate equivalent atoms:

#1  $x+1,y,z$  #2  $-x+3/2,-y+1,z-1/2$



*Appendix (B)***Table B1.** Crystal data and structure refinement for Compound **(62)**.

Empirical formula	C <sub>60</sub> H <sub>82</sub> O <sub>17</sub>	
Formula weight	1075.25	
Temperature	293(2) K	
Wavelength	0.71073 Å	
Crystal system	Trigonal	
Space group	P 3 <sub>2</sub>	
Unit cell dimensions	a = 15.8884(8) Å	a = 90°.
	b = 15.8884(8) Å	b = 90°.
	c = 22.0221(15) Å	g = 120°.
Volume	4814.5(5) Å <sup>3</sup>	
Z	3	
Density (calculated)	1.110 Mg/m <sup>3</sup>	
Absorption coefficient	0.081 mm <sup>-1</sup>	
F(000)	1730	
Crystal size	0.48 x 0.32 x 0.20 mm <sup>3</sup>	
Theta range for data collection	2.37 to 26.51°.	
Index ranges	-18<=h<=19, -18<=k<=15, -13<=l<=27	
Reflections collected	26394	
Independent reflections	9762 [R(int) = 0.0333]	
Completeness to theta = 25.00°	99.9 %	
Absorption correction	Semi-empirical from equivalents	
Max. and min. transmission	0.984 and 0.927	
Refinement method	Full-matrix least-squares on F <sup>2</sup>	
Data / restraints / parameters	9762 / 1 / 710	
Goodness-of-fit on F <sup>2</sup>	1.082	
Final R indices [I>2sigma(I)]	R1 = 0.0495, wR2 = 0.1412	
R indices (all data)	R1 = 0.0658, wR2 = 0.1531	

Largest diff. peak and hole

0.574 and -0.267 e.Å<sup>-3</sup>

**Table B2.** Atomic coordinates (  $\times 10^4$ ) and equivalent isotropic displacement parameters (Å<sup>2</sup> $\times 10^3$ ) for Compound **(62)**. U(eq) is defined as one third of the trace of the orthogonalized U<sup>ij</sup> tensor.

	x	y	z	U(eq)
O(1)	7547(2)	1049(2)	3074(1)	57(1)
O(2)	4820(2)	-826(2)	1768(1)	58(1)
O(3)	5457(2)	-1566(2)	1246(1)	80(1)
O(4)	3388(2)	1096(2)	1950(1)	75(1)
C(1)	4229(2)	1276(2)	2285(2)	51(1)
C(2)	4586(3)	2194(2)	2669(2)	57(1)
C(3)	5386(3)	2386(2)	3129(2)	55(1)
C(4)	6173(2)	2241(2)	2864(1)	48(1)
C(5)	6280(2)	1492(2)	3039(1)	47(1)
C(6)	6804(2)	1073(2)	2716(1)	47(1)
C(7)	6048(2)	41(2)	2509(1)	46(1)
C(8)	5160(2)	-8(2)	2193(1)	47(1)
C(9)	4328(2)	-191(2)	2592(2)	49(1)
C(10)	3919(2)	364(2)	2656(1)	49(1)
C(11)	6374(3)	-433(2)	2049(2)	55(1)
C(12)	5542(3)	-1005(2)	1643(2)	59(1)
C(13)	7215(3)	-384(3)	1978(2)	75(1)
C(14)	3103(3)	99(3)	3101(2)	71(1)
C(15)	6756(3)	2931(2)	2363(2)	66(1)
O(5)	2684(2)	3447(2)	2605(1)	56(1)
O(6)	5221(2)	4427(2)	4057(1)	57(1)
O(7)	4632(2)	3003(2)	4525(1)	73(1)
O(8)	6457(2)	7916(2)	3831(1)	67(1)
C(16)	5702(2)	7116(2)	3496(2)	51(1)

C(17)	5323(3)	7601(2)	3063(2)	57(1)
C(18)	4585(3)	6953(2)	2582(2)	55(1)
C(19)	3814(2)	6004(2)	2846(1)	48(1)
C(20)	3794(2)	5189(2)	2685(1)	46(1)
C(21)	3291(2)	4240(2)	3009(1)	46(1)
C(22)	4069(2)	4031(2)	3256(1)	45(1)
C(23)	4884(2)	4894(2)	3613(1)	46(1)
C(24)	5749(2)	5594(2)	3255(2)	50(1)
C(25)	6120(2)	6545(2)	3191(2)	53(1)
C(26)	3731(3)	3215(2)	3711(1)	52(1)
C(27)	4535(3)	3492(2)	4142(2)	54(1)
C(28)	2889(3)	2399(3)	3764(2)	69(1)
C(29)	7010(3)	7130(3)	2803(2)	79(1)
C(30)	3166(3)	6069(3)	3314(2)	64(1)
O(9)	3197(2)	2668(2)	1587(1)	58(1)
O(10)	3755(2)	4768(2)	-116(1)	64(1)
O(11)	2319(2)	3889(3)	-560(1)	93(1)
O(12)	7164(2)	6471(2)	-71(1)	61(1)
C(31)	6557(2)	5756(2)	365(1)	50(1)
C(32)	7181(2)	5578(3)	821(2)	55(1)
C(33)	6644(3)	4929(3)	1368(2)	59(1)
C(34)	5712(2)	4034(2)	1195(1)	49(1)
C(35)	4875(2)	3938(2)	1383(1)	48(1)
C(36)	3891(2)	3272(2)	1134(2)	50(1)
C(37)	3534(2)	3897(2)	808(2)	50(1)
C(38)	4314(2)	4654(2)	380(1)	49(1)
C(39)	4967(3)	5628(3)	637(2)	54(1)
C(40)	5937(2)	6124(2)	646(2)	52(1)
C(41)	2679(3)	3375(3)	390(2)	60(1)
C(42)	2848(3)	3994(3)	-143(2)	64(1)
C(43)	1913(4)	2519(4)	432(3)	98(2)

C(44)	6481(3)	7107(3)	941(2)	82(1)
C(45)	5805(3)	3331(3)	780(2)	64(1)
O(13)	291(2)	6975(2)	708(1)	54(1)
O(14)	-1037(2)	5045(2)	2476(1)	57(1)
O(15)	-1675(2)	5876(3)	2891(1)	89(1)
O(16)	968(2)	3571(2)	2497(1)	57(1)
C(46)	915(2)	4205(2)	2052(1)	47(1)
C(47)	1730(2)	4410(3)	1597(2)	53(1)
C(48)	1795(2)	5011(3)	1032(1)	54(1)
C(49)	1685(2)	5882(2)	1182(1)	48(1)
C(50)	903(2)	5896(2)	982(1)	47(1)
C(51)	512(2)	6523(2)	1198(1)	47(1)
C(52)	-427(2)	5884(2)	1540(1)	46(1)
C(53)	-352(2)	5185(2)	1989(1)	47(1)
C(54)	-618(2)	4193(2)	1758(1)	49(1)
C(55)	-94(2)	3753(2)	1778(1)	49(1)
C(56)	-779(2)	6407(3)	1944(2)	54(1)
C(57)	-1213(2)	5796(3)	2485(2)	59(1)
C(58)	-704(4)	7255(3)	1888(2)	86(1)
C(59)	-492(3)	2735(3)	1540(2)	72(1)
C(60)	2450(2)	6644(3)	1587(2)	61(1)
O(1S)	6981(4)	7830(4)	4988(2)	132(2)

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**Table B3.** Bond lengths [ $\text{\AA}$ ] and angles [ $^\circ$ ] for Compound **(62)**.

O(1)-C(6)	1.435(4)	O(4)-C(1)	1.424(4)
O(1)-H(1)	0.8200	O(4)-H(4)	0.8200
O(2)-C(12)	1.341(4)	C(1)-C(10)	1.516(4)
O(2)-C(8)	1.467(4)	C(1)-C(2)	1.528(5)
O(3)-C(12)	1.207(4)	C(1)-H(1A)	0.9800

C(2)-C(3)	1.532(5)	O(5)-H(5)	0.8200
C(2)-H(2A)	0.9700	O(6)-C(27)	1.346(4)
C(2)-H(2B)	0.9700	O(6)-C(23)	1.480(4)
C(3)-C(4)	1.498(5)	O(7)-C(27)	1.209(4)
C(3)-H(3A)	0.9700	O(8)-C(16)	1.441(4)
C(3)-H(3B)	0.9700	O(8)-H(8)	0.8200
C(4)-C(5)	1.340(4)	C(16)-C(25)	1.522(5)
C(4)-C(15)	1.505(5)	C(16)-C(17)	1.526(5)
C(5)-C(6)	1.482(4)	C(16)-H(16A)	0.9800
C(5)-H(5A)	0.9300	C(17)-C(18)	1.533(5)
C(6)-C(7)	1.539(4)	C(17)-H(17A)	0.9700
C(6)-H(6)	0.9800	C(17)-H(17B)	0.9700
C(7)-C(11)	1.502(4)	C(18)-C(19)	1.504(5)
C(7)-C(8)	1.540(4)	C(18)-H(18A)	0.9700
C(7)-H(7A)	0.9800	C(18)-H(18B)	0.9700
C(8)-C(9)	1.489(5)	C(19)-C(20)	1.328(4)
C(8)-H(8A)	0.9800	C(19)-C(30)	1.496(5)
C(9)-C(10)	1.339(4)	C(20)-C(21)	1.488(4)
C(9)-H(9A)	0.9300	C(20)-H(20)	0.9300
C(10)-C(14)	1.507(5)	C(21)-C(22)	1.530(4)
C(11)-C(13)	1.308(5)	C(21)-H(21)	0.9800
C(11)-C(12)	1.474(5)	C(22)-C(26)	1.509(4)
C(13)-H(13A)	0.9300	C(22)-C(23)	1.548(4)
C(13)-H(13B)	0.9300	C(22)-H(22)	0.9800
C(14)-H(14A)	0.9600	C(23)-C(24)	1.490(5)
C(14)-H(14B)	0.9600	C(23)-H(23)	0.9800
C(14)-H(14C)	0.9600	C(24)-C(25)	1.327(5)
C(15)-H(15A)	0.9600	C(24)-H(24)	0.9300
C(15)-H(15B)	0.9600	C(25)-C(29)	1.509(5)
C(15)-H(15C)	0.9600	C(26)-C(28)	1.323(5)
O(5)-C(21)	1.446(4)	C(26)-C(27)	1.470(5)

C(28)-H(28A)	0.9300	C(37)-C(38)	1.543(5)
C(28)-H(28B)	0.9300	C(37)-H(37)	0.9800
C(29)-H(29A)	0.9600	C(38)-C(39)	1.478(5)
C(29)-H(29B)	0.9600	C(38)-H(38)	0.9800
C(29)-H(29C)	0.9600	C(39)-C(40)	1.335(5)
C(30)-H(30A)	0.9600	C(39)-H(39)	0.9300
C(30)-H(30B)	0.9600	C(40)-C(44)	1.502(5)
C(30)-H(30C)	0.9600	C(41)-C(43)	1.297(6)
O(9)-C(36)	1.440(4)	C(41)-C(42)	1.468(5)
O(9)-H(9)	0.8200	C(43)-H(43A)	0.9300
O(10)-C(42)	1.349(5)	C(43)-H(43B)	0.9300
O(10)-C(38)	1.475(4)	C(44)-H(44A)	0.9600
O(11)-C(42)	1.200(4)	C(44)-H(44B)	0.9600
O(12)-C(31)	1.432(4)	C(44)-H(44C)	0.9600
O(12)-H(12)	0.8200	C(45)-H(45A)	0.9600
C(31)-C(40)	1.508(5)	C(45)-H(45B)	0.9600
C(31)-C(32)	1.533(4)	C(45)-H(45C)	0.9600
C(31)-H(31)	0.9800	O(13)-C(51)	1.434(4)
C(32)-C(33)	1.538(5)	O(13)-H(13)	0.8200
C(32)-H(32A)	0.9700	O(14)-C(57)	1.356(4)
C(32)-H(32B)	0.9700	O(14)-C(53)	1.464(4)
C(33)-C(34)	1.502(5)	O(15)-C(57)	1.201(4)
C(33)-H(33A)	0.9700	O(16)-C(46)	1.438(4)
C(33)-H(33B)	0.9700	O(16)-H(16)	0.8200
C(34)-C(35)	1.326(4)	C(46)-C(55)	1.515(4)
C(34)-C(45)	1.507(5)	C(46)-C(47)	1.536(4)
C(35)-C(36)	1.487(5)	C(46)-H(46)	0.9800
C(35)-H(35)	0.9300	C(47)-C(48)	1.539(5)
C(36)-C(37)	1.545(4)	C(47)-H(47A)	0.9700
C(36)-H(36)	0.9800	C(47)-H(47B)	0.9700
C(37)-C(41)	1.501(5)	C(48)-C(49)	1.515(5)

C(48)-H(48A)	0.9700	O(4)-C(1)-C(2)	110.0(3)
C(48)-H(48B)	0.9700	C(10)-C(1)-C(2)	113.7(3)
C(49)-C(50)	1.328(4)	O(4)-C(1)-H(1A)	109.2
C(49)-C(60)	1.505(5)	C(10)-C(1)-H(1A)	109.2
C(50)-C(51)	1.492(5)	C(2)-C(1)-H(1A)	109.2
C(50)-H(50)	0.9300	C(1)-C(2)-C(3)	115.6(3)
C(51)-C(52)	1.519(4)	C(1)-C(2)-H(2A)	108.4
C(51)-H(51)	0.9800	C(3)-C(2)-H(2A)	108.4
C(52)-C(56)	1.503(5)	C(1)-C(2)-H(2B)	108.4
C(52)-C(53)	1.536(4)	C(3)-C(2)-H(2B)	108.4
C(52)-H(52)	0.9800	H(2A)-C(2)-H(2B)	107.4
C(53)-C(54)	1.502(5)	C(4)-C(3)-C(2)	112.6(3)
C(53)-H(53)	0.9800	C(4)-C(3)-H(3A)	109.1
C(54)-C(55)	1.329(5)	C(2)-C(3)-H(3A)	109.1
C(54)-H(54)	0.9300	C(4)-C(3)-H(3B)	109.1
C(55)-C(59)	1.506(5)	C(2)-C(3)-H(3B)	109.1
C(56)-C(58)	1.298(6)	H(3A)-C(3)-H(3B)	107.8
C(56)-C(57)	1.472(5)	C(5)-C(4)-C(3)	120.8(3)
C(58)-H(58A)	0.9300	C(5)-C(4)-C(15)	123.5(3)
C(58)-H(58B)	0.9300	C(3)-C(4)-C(15)	115.5(3)
C(59)-H(59A)	0.9600	C(4)-C(5)-C(6)	127.6(3)
C(59)-H(59B)	0.9600	C(4)-C(5)-H(5A)	116.2
C(59)-H(59C)	0.9600	C(6)-C(5)-H(5A)	116.2
C(60)-H(60A)	0.9600	O(1)-C(6)-C(5)	113.7(3)
C(60)-H(60B)	0.9600	O(1)-C(6)-C(7)	110.4(2)
C(60)-H(60C)	0.9600	C(5)-C(6)-C(7)	107.8(2)
		O(1)-C(6)-H(6)	108.2
C(6)-O(1)-H(1)	109.5	C(5)-C(6)-H(6)	108.2
C(12)-O(2)-C(8)	110.1(3)	C(7)-C(6)-H(6)	108.2
C(1)-O(4)-H(4)	109.5	C(11)-C(7)-C(6)	116.9(3)
O(4)-C(1)-C(10)	105.3(3)	C(11)-C(7)-C(8)	102.0(3)

C(6)-C(7)-C(8)	113.3(2)	C(4)-C(15)-H(15A)	109.5
C(11)-C(7)-H(7A)	108.1	C(4)-C(15)-H(15B)	109.5
C(6)-C(7)-H(7A)	108.1	H(15A)-C(15)-H(15B)	109.5
C(8)-C(7)-H(7A)	108.1	C(4)-C(15)-H(15C)	109.5
O(2)-C(8)-C(9)	107.8(2)	H(15A)-C(15)-H(15C)	109.5
O(2)-C(8)-C(7)	104.8(2)	H(15B)-C(15)-H(15C)	109.5
C(9)-C(8)-C(7)	116.4(3)	C(21)-O(5)-H(5)	109.5
O(2)-C(8)-H(8A)	109.2	C(27)-O(6)-C(23)	110.4(2)
C(9)-C(8)-H(8A)	109.2	C(16)-O(8)-H(8)	109.5
C(7)-C(8)-H(8A)	109.2	O(8)-C(16)-C(25)	109.5(3)
C(10)-C(9)-C(8)	127.5(3)	O(8)-C(16)-C(17)	103.8(2)
C(10)-C(9)-H(9A)	116.3	C(25)-C(16)-C(17)	115.2(3)
C(8)-C(9)-H(9A)	116.3	O(8)-C(16)-H(16A)	109.4
C(9)-C(10)-C(14)	121.1(3)	C(25)-C(16)-H(16A)	109.4
C(9)-C(10)-C(1)	122.7(3)	C(17)-C(16)-H(16A)	109.4
C(14)-C(10)-C(1)	116.1(3)	C(16)-C(17)-C(18)	117.0(3)
C(13)-C(11)-C(12)	122.7(3)	C(16)-C(17)-H(17A)	108.0
C(13)-C(11)-C(7)	130.5(4)	C(18)-C(17)-H(17A)	108.0
C(12)-C(11)-C(7)	106.8(3)	C(16)-C(17)-H(17B)	108.0
O(3)-C(12)-O(2)	120.9(4)	C(18)-C(17)-H(17B)	108.0
O(3)-C(12)-C(11)	128.9(4)	H(17A)-C(17)-H(17B)	107.3
O(2)-C(12)-C(11)	110.1(3)	C(19)-C(18)-C(17)	111.8(3)
C(11)-C(13)-H(13A)	120.0	C(19)-C(18)-H(18A)	109.3
C(11)-C(13)-H(13B)	120.0	C(17)-C(18)-H(18A)	109.3
H(13A)-C(13)-H(13B)	120.0	C(19)-C(18)-H(18B)	109.3
C(10)-C(14)-H(14A)	109.5	C(17)-C(18)-H(18B)	109.3
C(10)-C(14)-H(14B)	109.5	H(18A)-C(18)-H(18B)	107.9
H(14A)-C(14)-H(14B)	109.5	C(20)-C(19)-C(30)	124.6(3)
C(10)-C(14)-H(14C)	109.5	C(20)-C(19)-C(18)	119.0(3)
H(14A)-C(14)-H(14C)	109.5	C(30)-C(19)-C(18)	116.2(3)
H(14B)-C(14)-H(14C)	109.5	C(19)-C(20)-C(21)	126.9(3)



C(19)-C(20)-H(20)	116.5	O(6)-C(27)-C(26)	110.1(3)
C(21)-C(20)-H(20)	116.5	C(26)-C(28)-H(28A)	120.0
O(5)-C(21)-C(20)	112.0(2)	C(26)-C(28)-H(28B)	120.0
O(5)-C(21)-C(22)	106.9(2)	H(28A)-C(28)-H(28B)	120.0
C(20)-C(21)-C(22)	107.9(3)	C(25)-C(29)-H(29A)	109.5
O(5)-C(21)-H(21)	110.0	C(25)-C(29)-H(29B)	109.5
C(20)-C(21)-H(21)	110.0	H(29A)-C(29)-H(29B)	109.5
C(22)-C(21)-H(21)	110.0	C(25)-C(29)-H(29C)	109.5
C(26)-C(22)-C(21)	116.4(3)	H(29A)-C(29)-H(29C)	109.5
C(26)-C(22)-C(23)	101.8(2)	H(29B)-C(29)-H(29C)	109.5
C(21)-C(22)-C(23)	113.4(2)	C(19)-C(30)-H(30A)	109.5
C(26)-C(22)-H(22)	108.3	C(19)-C(30)-H(30B)	109.5
C(21)-C(22)-H(22)	108.3	H(30A)-C(30)-H(30B)	109.5
C(23)-C(22)-H(22)	108.3	C(19)-C(30)-H(30C)	109.5
O(6)-C(23)-C(24)	107.1(2)	H(30A)-C(30)-H(30C)	109.5
O(6)-C(23)-C(22)	104.1(2)	H(30B)-C(30)-H(30C)	109.5
C(24)-C(23)-C(22)	116.3(3)	C(36)-O(9)-H(9)	109.5
O(6)-C(23)-H(23)	109.7	C(42)-O(10)-C(38)	110.9(3)
C(24)-C(23)-H(23)	109.7	C(31)-O(12)-H(12)	109.5
C(22)-C(23)-H(23)	109.7	O(12)-C(31)-C(40)	106.2(3)
C(25)-C(24)-C(23)	128.7(3)	O(12)-C(31)-C(32)	110.1(2)
C(25)-C(24)-H(24)	115.7	C(40)-C(31)-C(32)	114.3(3)
C(23)-C(24)-H(24)	115.7	O(12)-C(31)-H(31)	108.7
C(24)-C(25)-C(29)	120.5(3)	C(40)-C(31)-H(31)	108.7
C(24)-C(25)-C(16)	123.7(3)	C(32)-C(31)-H(31)	108.7
C(29)-C(25)-C(16)	115.8(3)	C(31)-C(32)-C(33)	116.3(3)
C(28)-C(26)-C(27)	122.6(3)	C(31)-C(32)-H(32A)	108.2
C(28)-C(26)-C(22)	130.6(3)	C(33)-C(32)-H(32A)	108.2
C(27)-C(26)-C(22)	106.8(3)	C(31)-C(32)-H(32B)	108.2
O(7)-C(27)-O(6)	120.9(3)	C(33)-C(32)-H(32B)	108.2
O(7)-C(27)-C(26)	129.0(3)	H(32A)-C(32)-H(32B)	107.4

C(34)-C(33)-C(32)	112.9(3)	C(40)-C(39)-H(39)	115.7
C(34)-C(33)-H(33A)	109.0	C(38)-C(39)-H(39)	115.7
C(32)-C(33)-H(33A)	109.0	C(39)-C(40)-C(44)	121.0(3)
C(34)-C(33)-H(33B)	109.0	C(39)-C(40)-C(31)	123.3(3)
C(32)-C(33)-H(33B)	109.0	C(44)-C(40)-C(31)	115.7(3)
H(33A)-C(33)-H(33B)	107.8	C(43)-C(41)-C(42)	121.3(4)
C(35)-C(34)-C(33)	119.1(3)	C(43)-C(41)-C(37)	130.7(4)
C(35)-C(34)-C(45)	124.7(3)	C(42)-C(41)-C(37)	107.9(3)
C(33)-C(34)-C(45)	116.1(3)	O(11)-C(42)-O(10)	121.1(4)
C(34)-C(35)-C(36)	127.2(3)	O(11)-C(42)-C(41)	129.7(4)
C(34)-C(35)-H(35)	116.4	O(10)-C(42)-C(41)	109.2(3)
C(36)-C(35)-H(35)	116.4	C(41)-C(43)-H(43A)	120.0
O(9)-C(36)-C(35)	113.7(3)	C(41)-C(43)-H(43B)	120.0
O(9)-C(36)-C(37)	110.2(2)	H(43A)-C(43)-H(43B)	120.0
C(35)-C(36)-C(37)	107.9(3)	C(40)-C(44)-H(44A)	109.5
O(9)-C(36)-H(36)	108.3	C(40)-C(44)-H(44B)	109.5
C(35)-C(36)-H(36)	108.3	H(44A)-C(44)-H(44B)	109.5
C(37)-C(36)-H(36)	108.3	C(40)-C(44)-H(44C)	109.5
C(41)-C(37)-C(38)	102.0(3)	H(44A)-C(44)-H(44C)	109.5
C(41)-C(37)-C(36)	116.8(3)	H(44B)-C(44)-H(44C)	109.5
C(38)-C(37)-C(36)	112.0(2)	C(34)-C(45)-H(45A)	109.5
C(41)-C(37)-H(37)	108.5	C(34)-C(45)-H(45B)	109.5
C(38)-C(37)-H(37)	108.5	H(45A)-C(45)-H(45B)	109.5
C(36)-C(37)-H(37)	108.5	C(34)-C(45)-H(45C)	109.5
O(10)-C(38)-C(39)	107.8(3)	H(45A)-C(45)-H(45C)	109.5
O(10)-C(38)-C(37)	104.4(2)	H(45B)-C(45)-H(45C)	109.5
C(39)-C(38)-C(37)	116.8(3)	C(51)-O(13)-H(13)	109.5
O(10)-C(38)-H(38)	109.2	C(57)-O(14)-C(53)	110.0(2)
C(39)-C(38)-H(38)	109.2	C(46)-O(16)-H(16)	109.5
C(37)-C(38)-H(38)	109.2	O(16)-C(46)-C(55)	110.9(2)
C(40)-C(39)-C(38)	128.5(3)	O(16)-C(46)-C(47)	104.8(2)

C(55)-C(46)-C(47)	114.9(3)	C(56)-C(52)-H(52)	108.5
O(16)-C(46)-H(46)	108.7	C(51)-C(52)-H(52)	108.5
C(55)-C(46)-H(46)	108.7	C(53)-C(52)-H(52)	108.5
C(47)-C(46)-H(46)	108.7	O(14)-C(53)-C(54)	106.9(2)
C(46)-C(47)-C(48)	116.5(3)	O(14)-C(53)-C(52)	105.1(2)
C(46)-C(47)-H(47A)	108.2	C(54)-C(53)-C(52)	117.3(3)
C(48)-C(47)-H(47A)	108.2	O(14)-C(53)-H(53)	109.1
C(46)-C(47)-H(47B)	108.2	C(54)-C(53)-H(53)	109.1
C(48)-C(47)-H(47B)	108.2	C(52)-C(53)-H(53)	109.1
H(47A)-C(47)-H(47B)	107.3	C(55)-C(54)-C(53)	128.3(3)
C(49)-C(48)-C(47)	112.8(3)	C(55)-C(54)-H(54)	115.9
C(49)-C(48)-H(48A)	109.0	C(53)-C(54)-H(54)	115.9
C(47)-C(48)-H(48A)	109.0	C(54)-C(55)-C(59)	121.1(3)
C(49)-C(48)-H(48B)	109.0	C(54)-C(55)-C(46)	123.8(3)
C(47)-C(48)-H(48B)	109.0	C(59)-C(55)-C(46)	115.1(3)
H(48A)-C(48)-H(48B)	107.8	C(58)-C(56)-C(57)	122.1(4)
C(50)-C(49)-C(60)	124.7(3)	C(58)-C(56)-C(52)	130.5(3)
C(50)-C(49)-C(48)	118.6(3)	C(57)-C(56)-C(52)	107.2(3)
C(60)-C(49)-C(48)	116.6(3)	O(15)-C(57)-O(14)	120.6(3)
C(49)-C(50)-C(51)	127.6(3)	O(15)-C(57)-C(56)	130.0(4)
C(49)-C(50)-H(50)	116.2	O(14)-C(57)-C(56)	109.5(3)
C(51)-C(50)-H(50)	116.2	C(56)-C(58)-H(58A)	120.0
O(13)-C(51)-C(50)	112.4(2)	C(56)-C(58)-H(58B)	120.0
O(13)-C(51)-C(52)	107.7(2)	H(58A)-C(58)-H(58B)	120.0
C(50)-C(51)-C(52)	108.1(2)	C(55)-C(59)-H(59A)	109.5
O(13)-C(51)-H(51)	109.5	C(55)-C(59)-H(59B)	109.5
C(50)-C(51)-H(51)	109.5	H(59A)-C(59)-H(59B)	109.5
C(52)-C(51)-H(51)	109.5	C(55)-C(59)-H(59C)	109.5
C(56)-C(52)-C(51)	115.9(3)	H(59A)-C(59)-H(59C)	109.5
C(56)-C(52)-C(53)	101.7(2)	H(59B)-C(59)-H(59C)	109.5
C(51)-C(52)-C(53)	113.4(2)	C(49)-C(60)-H(60A)	109.5

C(49)-C(60)-H(60B) 109.5	H(60A)-C(60)-H(60C)109.5
H(60A)-C(60)-H(60B)109.5	H(60B)-C(60)-H(60C)109.5
C(49)-C(60)-H(60C) 109.5	

Symmetry transformations used to generate equivalent atoms:

**Table B4.** Anisotropic displacement parameters ( $\text{\AA}^2 \times 10^3$ ) for Compound (**62**). The anisotropic displacement factor exponent takes the form:  $-2p^2[ h^2 a^* U^{11} + \dots + 2 h k a^* b^* U^{12} ]$

	$U^{11}$	$U^{22}$	$U^{33}$	$U^{23}$	$U^{13}$	$U^{12}$
O(1)	54(1)	57(1)	60(1)	3(1)	0(1)	28(1)
O(2)	76(2)	50(1)	55(1)	-13(1)	-10(1)	37(1)
O(3)	121(2)	69(2)	62(2)	-17(1)	0(2)	57(2)
O(4)	83(2)	55(1)	92(2)	-7(1)	-31(2)	39(1)
C(1)	59(2)	44(2)	53(2)	-1(1)	-4(2)	29(2)
C(2)	66(2)	48(2)	65(2)	-3(2)	2(2)	34(2)
C(3)	66(2)	45(2)	57(2)	-11(2)	-2(2)	29(2)
C(4)	55(2)	40(2)	46(2)	-6(1)	-2(1)	21(1)
C(5)	52(2)	42(2)	41(2)	0(1)	0(1)	19(1)
C(6)	54(2)	42(2)	42(2)	5(1)	4(1)	23(1)
C(7)	59(2)	42(2)	41(2)	3(1)	5(1)	29(1)
C(8)	63(2)	35(1)	43(2)	-2(1)	0(1)	25(1)
C(9)	58(2)	36(2)	49(2)	5(1)	1(1)	20(1)
C(10)	55(2)	44(2)	47(2)	-1(1)	1(1)	23(1)
C(11)	76(2)	51(2)	49(2)	5(1)	9(2)	40(2)
C(12)	93(3)	47(2)	45(2)	2(2)	5(2)	40(2)
C(13)	86(3)	81(3)	73(3)	-2(2)	9(2)	52(2)
C(14)	72(2)	70(2)	71(2)	9(2)	17(2)	36(2)
C(15)	68(2)	43(2)	80(3)	9(2)	10(2)	22(2)
O(5)	61(1)	50(1)	59(1)	-6(1)	-7(1)	30(1)

O(6)	72(2)	55(1)	52(1)	1(1)	-8(1)	37(1)
O(7)	105(2)	76(2)	55(1)	15(1)	-1(1)	57(2)
O(8)	83(2)	51(1)	67(2)	-9(1)	-17(1)	34(1)
C(16)	55(2)	42(2)	55(2)	-2(1)	-2(2)	25(1)
C(17)	68(2)	45(2)	64(2)	2(2)	1(2)	32(2)
C(18)	67(2)	49(2)	54(2)	9(2)	-2(2)	33(2)
C(19)	56(2)	53(2)	45(2)	3(1)	-4(1)	35(2)
C(20)	54(2)	48(2)	42(2)	-1(1)	-1(1)	29(1)
C(21)	56(2)	47(2)	41(2)	-2(1)	-1(1)	29(1)
C(22)	54(2)	41(2)	43(2)	-1(1)	3(1)	27(1)
C(23)	58(2)	47(2)	44(2)	2(1)	1(1)	35(2)
C(24)	57(2)	48(2)	54(2)	-1(1)	3(2)	33(2)
C(25)	52(2)	54(2)	54(2)	-1(2)	1(1)	28(2)
C(26)	70(2)	48(2)	45(2)	2(1)	5(2)	36(2)
C(27)	79(2)	56(2)	42(2)	1(2)	3(2)	45(2)
C(28)	78(3)	57(2)	66(2)	14(2)	8(2)	29(2)
C(29)	68(2)	69(2)	97(3)	11(2)	28(2)	31(2)
C(30)	66(2)	68(2)	73(2)	-4(2)	8(2)	44(2)
O(9)	60(1)	58(1)	57(1)	10(1)	7(1)	31(1)
O(10)	56(1)	94(2)	52(1)	18(1)	4(1)	46(1)
O(11)	69(2)	138(3)	71(2)	19(2)	-12(2)	52(2)
O(12)	55(1)	77(2)	58(1)	22(1)	9(1)	38(1)
C(31)	53(2)	60(2)	43(2)	6(1)	1(1)	33(2)
C(32)	51(2)	66(2)	52(2)	8(2)	-2(2)	31(2)
C(33)	59(2)	72(2)	47(2)	8(2)	-4(2)	34(2)
C(34)	56(2)	59(2)	39(2)	9(1)	1(1)	35(2)
C(35)	57(2)	60(2)	38(2)	5(1)	2(1)	37(2)
C(36)	58(2)	53(2)	48(2)	6(1)	4(1)	33(2)
C(37)	48(2)	61(2)	50(2)	5(2)	5(1)	35(2)
C(38)	51(2)	67(2)	44(2)	8(2)	3(1)	41(2)
C(39)	65(2)	64(2)	52(2)	11(2)	11(2)	46(2)

C(40)	59(2)	57(2)	48(2)	5(1)	3(2)	36(2)
C(41)	54(2)	72(2)	61(2)	3(2)	1(2)	36(2)
C(42)	55(2)	93(3)	56(2)	10(2)	2(2)	45(2)
C(43)	80(3)	86(3)	106(4)	12(3)	-28(3)	25(3)
C(44)	92(3)	67(2)	90(3)	-16(2)	3(2)	42(2)
C(45)	67(2)	76(2)	67(2)	-1(2)	4(2)	50(2)
O(13)	44(1)	60(1)	51(1)	13(1)	0(1)	22(1)
O(14)	52(1)	77(2)	49(1)	14(1)	13(1)	37(1)
O(15)	106(2)	119(2)	73(2)	21(2)	35(2)	79(2)
O(16)	54(1)	75(2)	50(1)	16(1)	10(1)	38(1)
C(46)	45(2)	52(2)	44(2)	4(1)	1(1)	24(1)
C(47)	50(2)	65(2)	49(2)	6(2)	7(1)	33(2)
C(48)	56(2)	70(2)	42(2)	7(2)	10(1)	36(2)
C(49)	43(2)	63(2)	36(2)	8(1)	7(1)	23(1)
C(50)	42(2)	57(2)	34(1)	3(1)	1(1)	20(1)
C(51)	40(2)	53(2)	42(2)	5(1)	-3(1)	19(1)
C(52)	35(1)	54(2)	44(2)	0(1)	-2(1)	19(1)
C(53)	36(1)	63(2)	41(2)	4(1)	1(1)	24(1)
C(54)	39(2)	54(2)	47(2)	5(1)	-1(1)	17(1)
C(55)	47(2)	51(2)	42(2)	2(1)	3(1)	19(1)
C(56)	47(2)	64(2)	57(2)	4(2)	4(2)	32(2)
C(57)	55(2)	80(2)	51(2)	7(2)	8(2)	40(2)
C(58)	105(3)	83(3)	85(3)	15(2)	31(3)	58(3)
C(59)	70(2)	62(2)	76(3)	-9(2)	-10(2)	28(2)
C(60)	44(2)	70(2)	63(2)	0(2)	-7(2)	24(2)
O(1S)	179(4)	162(4)	101(3)	33(3)	-3(3)	121(3)

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**Table B5.** Hydrogen coordinates ( $\times 10^4$ ) and isotropic displacement parameters ( $\text{\AA}^2 \times 10^3$ ) for Compound **(62)**.

	x	y	z	U(eq)
H(1)	7299	696	3369	85
H(4)	3417	1614	1870	112
H(1A)	4743	1365	2002	61
H(2A)	4036	2151	2887	69
H(2B)	4827	2748	2398	69
H(3A)	5669	3048	3277	66
H(3B)	5099	1953	3473	66
H(5A)	5992	1201	3406	56
H(6)	7109	1467	2354	56
H(7A)	5818	-377	2869	55
H(8A)	5368	592	1963	56
H(9A)	4062	-757	2823	59
H(13A)	7306	-717	1661	91
H(13B)	7723	-14	2244	91
H(14A)	2814	-576	3205	107
H(14B)	2622	216	2920	107
H(14C)	3355	488	3460	107
H(15A)	7372	2960	2329	99
H(15B)	6858	3567	2453	99
H(15C)	6408	2707	1986	99
H(5)	2182	3456	2535	84
H(8)	6560	7715	4149	100
H(16A)	5181	6688	3775	61
H(17A)	5876	8123	2855	69
H(17B)	5026	7894	3305	69
H(18A)	4280	7293	2405	66
H(18B)	4922	6824	2260	66

H(20)	4130	5213	2334	55
H(21)	2901	4271	3343	56
H(22)	4366	3884	2913	54
H(23)	4612	5244	3828	55
H(24)	6073	5328	3049	60
H(28A)	2789	1974	4082	83
H(28B)	2398	2250	3482	83
H(29A)	7317	6754	2722	119
H(29B)	7456	7714	3014	119
H(29C)	6822	7296	2427	119
H(30A)	2650	5428	3411	96
H(30B)	2897	6448	3157	96
H(30C)	3537	6374	3673	96
H(9)	3205	3008	1870	86
H(12)	7667	6453	-116	92
H(31)	6132	5146	152	60
H(32A)	7683	6203	972	66
H(32B)	7504	5286	605	66
H(33A)	7066	4736	1567	70
H(33B)	6502	5302	1657	70
H(35)	4908	4330	1706	58
H(36)	3946	2848	833	60
H(37)	3375	4242	1116	60
H(38)	4706	4388	215	59
H(39)	4661	5935	815	65
H(43A)	1458	2287	120	118
H(43B)	1820	2138	773	118
H(44A)	6027	7282	1099	123
H(44B)	6891	7579	646	123
H(44C)	6873	7086	1266	123
H(45A)	5230	2704	810	96



H(45B)	6361	3281	897	96
H(45C)	5884	3560	369	96
H(13)	798	7411	563	81
H(16)	549	3436	2756	86
H(46)	1064	4816	2250	56
H(47A)	1647	3793	1462	63
H(47B)	2345	4748	1810	63
H(48A)	2417	5233	836	65
H(48B)	1290	4597	748	65
H(50)	560	5464	670	56
H(51)	983	7024	1472	56
H(52)	-938	5500	1244	55
H(53)	308	5497	2157	56
H(54)	-1227	3842	1578	59
H(58A)	-928	7495	2195	103
H(58B)	-426	7623	1540	103
H(59A)	-1143	2494	1396	107
H(59B)	-494	2323	1859	107
H(59C)	-92	2740	1211	107
H(60A)	2398	7220	1577	91
H(60B)	3082	6794	1447	91
H(60C)	2357	6402	1996	91

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**Table B6.** Torsion angles [°] for Compound **(62)**.

O(4)-C(1)-C(2)-C(3)	170.6(3)	C(2)-C(3)-C(4)-C(15)	64.5(4)
C(10)-C(1)-C(2)-C(3)	52.8(4)	C(3)-C(4)-C(5)-C(6)	160.9(3)
C(1)-C(2)-C(3)-C(4)	45.1(4)	C(15)-C(4)-C(5)-C(6)	-13.7(5)
C(2)-C(3)-C(4)-C(5)	-110.5(3)	C(4)-C(5)-C(6)-O(1)	124.1(3)

C(4)-C(5)-C(6)-C(7)	-113.0(3)	C(16)-C(17)-C(18)-C(19)	44.8(4)
O(1)-C(6)-C(7)-C(11)	-69.2(3)	C(17)-C(18)-C(19)-C(20)	-111.4(3)
C(5)-C(6)-C(7)-C(11)	166.0(3)	C(17)-C(18)-C(19)-C(30)	64.0(4)
O(1)-C(6)-C(7)-C(8)	172.6(2)	C(30)-C(19)-C(20)-C(21)	-13.2(5)
C(5)-C(6)-C(7)-C(8)	47.8(3)	C(18)-C(19)-C(20)-C(21)	161.8(3)
C(12)-O(2)-C(8)-C(9)	-146.3(3)	C(19)-C(20)-C(21)-O(5)	129.1(3)
C(12)-O(2)-C(8)-C(7)	-21.8(3)	C(19)-C(20)-C(21)-C(22)	-113.5(3)
C(11)-C(7)-C(8)-O(2)	24.5(3)	O(5)-C(21)-C(22)-C(26)	-72.0(3)
C(6)-C(7)-C(8)-O(2)	151.0(2)	C(20)-C(21)-C(22)-C(26)	167.4(3)
C(11)-C(7)-C(8)-C(9)	143.4(3)	O(5)-C(21)-C(22)-C(23)	170.4(2)
C(6)-C(7)-C(8)-C(9)	-90.1(3)	C(20)-C(21)-C(22)-C(23)	49.8(3)
O(2)-C(8)-C(9)-C(10)	-120.2(3)	C(27)-O(6)-C(23)-C(24)	-144.6(3)
C(7)-C(8)-C(9)-C(10)	122.6(4)	C(27)-O(6)-C(23)-C(22)	-20.8(3)
C(8)-C(9)-C(10)-C(14)	-177.4(3)	C(26)-C(22)-C(23)-O(6)	25.5(3)
C(8)-C(9)-C(10)-C(1)	3.6(5)	C(21)-C(22)-C(23)-O(6)	151.3(2)
O(4)-C(1)-C(10)-C(9)	118.4(3)	C(26)-C(22)-C(23)-C(24)	143.0(3)
C(2)-C(1)-C(10)-C(9)	-121.1(3)	C(21)-C(22)-C(23)-C(24)	-91.2(3)
O(4)-C(1)-C(10)-C(14)	-60.7(4)	O(6)-C(23)-C(24)-C(25)	-121.7(4)
C(2)-C(1)-C(10)-C(14)	59.9(4)	C(22)-C(23)-C(24)-C(25)	122.5(4)
C(6)-C(7)-C(11)-C(13)	35.3(5)	C(23)-C(24)-C(25)-C(29)	-179.9(4)
C(8)-C(7)-C(11)-C(13)	159.5(4)	C(23)-C(24)-C(25)-C(16)	0.6(6)
C(6)-C(7)-C(11)-C(12)	-143.7(3)	O(8)-C(16)-C(25)-C(24)	126.4(3)
C(8)-C(7)-C(11)-C(12)	-19.5(3)	C(17)-C(16)-C(25)-C(24)	-117.1(4)
C(8)-O(2)-C(12)-O(3)	-170.5(3)	O(8)-C(16)-C(25)-C(29)	-53.1(4)
C(8)-O(2)-C(12)-C(11)	9.4(3)	C(17)-C(16)-C(25)-C(29)	63.3(4)
C(13)-C(11)-C(12)-O(3)	8.1(6)	C(21)-C(22)-C(26)-C(28)	32.2(5)
C(7)-C(11)-C(12)-O(3)	-172.8(3)	C(23)-C(22)-C(26)-C(28)	156.0(4)
C(13)-C(11)-C(12)-O(2)	-171.8(3)	C(21)-C(22)-C(26)-C(27)	-146.1(3)
C(7)-C(11)-C(12)-O(2)	7.3(3)	C(23)-C(22)-C(26)-C(27)	-22.2(3)
O(8)-C(16)-C(17)-C(18)	172.8(3)	C(23)-O(6)-C(27)-O(7)	-173.6(3)
C(25)-C(16)-C(17)-C(18)	53.1(4)	C(23)-O(6)-C(27)-C(26)	6.7(3)

C(28)-C(26)-C(27)-O(7)	12.7(6)	C(38)-C(37)-C(41)-C(43)	158.6(5)
C(22)-C(26)-C(27)-O(7)	-168.9(3)	C(36)-C(37)-C(41)-C(43)	36.1(6)
C(28)-C(26)-C(27)-O(6)	-167.7(3)	C(38)-C(37)-C(41)-C(42)	-18.6(3)
C(22)-C(26)-C(27)-O(6)	10.7(3)	C(36)-C(37)-C(41)-C(42)	-141.1(3)
O(12)-C(31)-C(32)-C(33)	172.1(3)	C(38)-O(10)-C(42)-O(11)	-170.6(4)
C(40)-C(31)-C(32)-C(33)	52.7(4)	C(38)-O(10)-C(42)-C(41)	8.8(4)
C(31)-C(32)-C(33)-C(34)	44.7(4)	C(43)-C(41)-C(42)-O(11)	9.0(7)
C(32)-C(33)-C(34)-C(35)	-113.6(3)	C(37)-C(41)-C(42)-O(11)	-173.6(4)
C(32)-C(33)-C(34)-C(45)	62.9(4)	C(43)-C(41)-C(42)-O(10)	-170.5(4)
C(33)-C(34)-C(35)-C(36)	161.9(3)	C(37)-C(41)-C(42)-O(10)	7.0(4)
C(45)-C(34)-C(35)-C(36)	-14.2(5)	O(16)-C(46)-C(47)-C(48)	175.0(3)
C(34)-C(35)-C(36)-O(9)	127.1(3)	C(55)-C(46)-C(47)-C(48)	53.1(4)
C(34)-C(35)-C(36)-C(37)	-110.3(3)	C(46)-C(47)-C(48)-C(49)	44.4(4)
O(9)-C(36)-C(37)-C(41)	-70.6(4)	C(47)-C(48)-C(49)-C(50)	-113.2(3)
C(35)-C(36)-C(37)-C(41)	164.8(3)	C(47)-C(48)-C(49)-C(60)	62.7(4)
O(9)-C(36)-C(37)-C(38)	172.3(3)	C(60)-C(49)-C(50)-C(51)	-12.9(5)
C(35)-C(36)-C(37)-C(38)	47.7(3)	C(48)-C(49)-C(50)-C(51)	162.6(3)
C(42)-O(10)-C(38)-C(39)	-145.4(3)	C(49)-C(50)-C(51)-O(13)	132.0(3)
C(42)-O(10)-C(38)-C(37)	-20.6(3)	C(49)-C(50)-C(51)-C(52)	-109.3(3)
C(41)-C(37)-C(38)-O(10)	23.0(3)	O(13)-C(51)-C(52)-C(56)	-75.5(3)
C(36)-C(37)-C(38)-O(10)	148.6(3)	C(50)-C(51)-C(52)-C(56)	162.9(3)
C(41)-C(37)-C(38)-C(39)	141.8(3)	O(13)-C(51)-C(52)-C(53)	167.4(3)
C(36)-C(37)-C(38)-C(39)	-92.5(3)	C(50)-C(51)-C(52)-C(53)	45.7(3)
O(10)-C(38)-C(39)-C(40)	-116.9(4)	C(57)-O(14)-C(53)-C(54)	-147.2(3)
C(37)-C(38)-C(39)-C(40)	126.0(4)	C(57)-O(14)-C(53)-C(52)	-21.9(3)
C(38)-C(39)-C(40)-C(44)	-178.8(4)	C(56)-C(52)-C(53)-O(14)	25.0(3)
C(38)-C(39)-C(40)-C(31)	1.7(5)	C(51)-C(52)-C(53)-O(14)	150.1(3)
O(12)-C(31)-C(40)-C(39)	122.1(3)	C(56)-C(52)-C(53)-C(54)	143.5(3)
C(32)-C(31)-C(40)-C(39)	-116.3(4)	C(51)-C(52)-C(53)-C(54)	-91.3(3)
O(12)-C(31)-C(40)-C(44)	-57.5(4)	O(14)-C(53)-C(54)-C(55)	-116.0(3)
C(32)-C(31)-C(40)-C(44)	64.1(4)	C(52)-C(53)-C(54)-C(55)	126.4(3)

C(53)-C(54)-C(55)-C(59)	178.1(3)	C(51)-C(52)-C(56)-C(57)	-143.6(3)
C(53)-C(54)-C(55)-C(46)	-0.1(5)	C(53)-C(52)-C(56)-C(57)	-20.2(3)
O(16)-C(46)-C(55)-C(54)	126.7(3)	C(53)-O(14)-C(57)-O(15)	-172.0(3)
C(47)-C(46)-C(55)-C(54)	-114.7(4)	C(53)-O(14)-C(57)-C(56)	9.0(4)
O(16)-C(46)-C(55)-C(59)	-51.6(4)	C(58)-C(56)-C(57)-O(15)	12.4(7)
C(47)-C(46)-C(55)-C(59)	67.0(4)	C(52)-C(56)-C(57)-O(15)	-170.9(4)
C(51)-C(52)-C(56)-C(58)	32.7(6)	C(58)-C(56)-C(57)-O(14)	-168.7(4)
C(53)-C(52)-C(56)-C(58)	156.2(4)	C(52)-C(56)-C(57)-O(14)	8.0(4)

Symmetry transformations used to generate equivalent atoms:

**Table B7.** Hydrogen bonds for Compound **(62)** [Å and °].

D-H...A	d(D-H)	d(H...A)	d(D...A)	<(DHA)
O(1)-H(1)...O(13)#1	0.82	2.02	2.835(3)	173.6
O(4)-H(4)...O(9)	0.82	1.98	2.780(3)	166.8
O(5)-H(5)...O(16)	0.82	2.03	2.840(3)	170.7
O(8)-H(8)...O(1S)	0.82	1.94	2.705(5)	154.4
O(9)-H(9)...O(5)	0.82	2.09	2.869(3)	158.3
O(12)-H(12)...O(1)#2	0.82	2.03	2.849(3)	175.9
O(13)-H(13)...O(8)#3	0.82	1.94	2.726(3)	161.4
O(16)-H(16)...O(12)#4	0.82	2.04	2.843(3)	166.4

Symmetry transformations used to generate equivalent atoms:

#1 -x+y,-x,z+1/3 #2 -y+1,x-y,z-1/3 #3 -y+1,x-y+1,z-1/3 #4 -x+y,-x+1,z+1/3

*Appendix (C)***Table C1.** Crystal data and structure refinement for Compound **(66)**.

Empirical formula	C <sub>19</sub> H <sub>24</sub> O <sub>6</sub>	
Formula weight	348.38	
Temperature	293(2) K	
Wavelength	0.71073 Å	
Crystal system	Monoclinic	
Space group	P 2 <sub>1</sub>	
Unit cell dimensions	a = 6.7901(10) Å	a = 90°.
	b = 7.9490(12) Å	b = 93.444(2)°.
	c = 17.457(3) Å	g = 90°.
Volume	940.5(2) Å <sup>3</sup>	
Z	2	
Density (calculated)	1.230 Mg/m <sup>3</sup>	
Absorption coefficient	0.091 mm <sup>-1</sup>	
F(000)	372	
Crystal size	0.44 x 0.20 x 0.16 mm <sup>3</sup>	
Theta range for data collection	2.82 to 26.45°.	
Index ranges	-2<=h<=8, -9<=k<=9, -21<=l<=19	
Reflections collected	4309	
Independent reflections	2907 [R(int) = 0.0259]	
Completeness to theta = 25.00°	99.0 %	
Absorption correction	Semi-empirical from equivalents	
Max. and min. transmission	0.986 and 0.966	
Refinement method	Full-matrix least-squares on F <sup>2</sup>	
Data / restraints / parameters	2907 / 1 / 231	
Goodness-of-fit on F <sup>2</sup>	1.064	
Final R indices [I>2sigma(I)]	R1 = 0.0587, wR2 = 0.1601	

R indices (all data)	R1 = 0.0731, wR2 = 0.1771
Extinction coefficient	0.012(7)
Largest diff. peak and hole	0.485 and -0.424 e.Å <sup>-3</sup>

**Table C2.** Atomic coordinates (  $\times 10^4$ ) and equivalent isotropic displacement parameters ( $\text{\AA}^2 \times 10^3$ ) for Compound (**66**).  $U(\text{eq})$  is defined as one third of the trace of the orthogonalized  $U_{ij}$  tensor.

	x	y	z	U(eq)
O(1)	7715(4)	2754(4)	3955(1)	73(1)
O(2)	11032(3)	3728(3)	1685(2)	64(1)
O(3)	13733(4)	2238(4)	1994(2)	86(1)
O(4)	7773(4)	8704(5)	981(2)	89(1)
O(5)	8048(8)	4505(6)	4942(2)	125(2)
O(6)	10540(10)	8971(16)	1504(4)	352(9)
C(1)	7171(5)	7615(6)	1611(2)	68(1)
C(2)	5491(6)	8534(6)	1985(3)	83(1)
C(3)	4661(6)	7527(7)	2644(3)	82(1)
C(4)	6292(6)	6758(6)	3157(2)	70(1)
C(5)	6493(5)	5099(6)	3165(2)	64(1)
C(6)	8252(5)	4114(5)	3436(2)	59(1)
C(7)	9096(5)	3213(5)	2755(2)	56(1)
C(8)	9349(5)	4413(5)	2072(2)	56(1)
C(9)	7671(5)	4557(5)	1497(2)	58(1)
C(10)	6682(5)	5942(6)	1275(2)	62(1)
C(11)	11132(6)	2506(5)	2881(2)	64(1)
C(12)	12155(5)	2748(5)	2169(2)	66(1)
C(13)	12067(9)	1815(8)	3479(3)	99(2)
C(14)	4990(6)	5846(7)	678(3)	87(1)
C(15)	7675(9)	7953(7)	3577(3)	101(2)
C(16)	7634(7)	3133(7)	4695(2)	81(1)

C(17)	6967(9)	1704(9)	5145(3)	103(2)
C(18)	9519(7)	9276(7)	1004(2)	81(1)
C(19)	9997(8)	10337(7)	356(3)	87(1)

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**Table C3.** Bond lengths [Å] and angles [°] for Compound **(66)**.

O(1)-C(16)	1.330(5)	C(6)-H(6)	0.9800
O(1)-C(6)	1.471(5)	C(7)-C(11)	1.496(5)
O(2)-C(12)	1.351(4)	C(7)-C(8)	1.544(5)
O(2)-C(8)	1.467(4)	C(7)-H(7)	0.9800
O(3)-C(12)	1.202(5)	C(8)-C(9)	1.478(5)
O(4)-C(18)	1.268(5)	C(8)-H(8)	0.9800
O(4)-C(1)	1.477(5)	C(9)-C(10)	1.334(6)
O(5)-C(16)	1.200(7)	C(9)-H(9)	0.9300
O(6)-C(18)	1.110(6)	C(10)-C(14)	1.506(5)
C(1)-C(10)	1.483(6)	C(11)-C(13)	1.310(6)
C(1)-C(2)	1.533(6)	C(11)-C(12)	1.472(6)
C(1)-H(1)	0.9800	C(13)-H(13A)	0.9300
C(2)-C(3)	1.537(7)	C(13)-H(13B)	0.9300
C(2)-H(2A)	0.9700	C(14)-H(14A)	0.9600
C(2)-H(2B)	0.9700	C(14)-H(14B)	0.9600
C(3)-C(4)	1.510(6)	C(14)-H(14C)	0.9600
C(3)-H(3A)	0.9700	C(15)-H(15A)	0.9600
C(3)-H(3B)	0.9700	C(15)-H(15B)	0.9600
C(4)-C(5)	1.326(6)	C(15)-H(15C)	0.9600
C(4)-C(15)	1.496(6)	C(16)-C(17)	1.468(8)
C(5)-C(6)	1.482(6)	C(17)-H(17A)	0.9600
C(5)-H(5)	0.9300	C(17)-H(17B)	0.9600
C(6)-C(7)	1.529(5)	C(17)-H(17C)	0.9600

C(18)-C(19)	1.462(6)	C(6)-C(5)-H(5)	116.2
C(19)-H(19A)	0.9600	O(1)-C(6)-C(5)	111.1(3)
C(19)-H(19B)	0.9600	O(1)-C(6)-C(7)	104.7(3)
C(19)-H(19C)	0.9600	C(5)-C(6)-C(7)	109.3(3)
		O(1)-C(6)-H(6)	110.5
C(16)-O(1)-C(6)	117.2(4)	C(5)-C(6)-H(6)	110.5
C(12)-O(2)-C(8)	110.6(3)	C(7)-C(6)-H(6)	110.5
C(18)-O(4)-C(1)	119.1(3)	C(11)-C(7)-C(6)	116.6(3)
O(4)-C(1)-C(10)	107.3(3)	C(11)-C(7)-C(8)	101.6(3)
O(4)-C(1)-C(2)	106.5(3)	C(6)-C(7)-C(8)	112.0(3)
C(10)-C(1)-C(2)	116.2(4)	C(11)-C(7)-H(7)	108.7
O(4)-C(1)-H(1)	108.9	C(6)-C(7)-H(7)	108.7
C(10)-C(1)-H(1)	108.9	C(8)-C(7)-H(7)	108.7
C(2)-C(1)-H(1)	108.9	O(2)-C(8)-C(9)	107.8(3)
C(1)-C(2)-C(3)	112.7(4)	O(2)-C(8)-C(7)	104.6(3)
C(1)-C(2)-H(2A)	109.0	C(9)-C(8)-C(7)	117.1(3)
C(3)-C(2)-H(2A)	109.0	O(2)-C(8)-H(8)	109.0
C(1)-C(2)-H(2B)	109.0	C(9)-C(8)-H(8)	109.0
C(3)-C(2)-H(2B)	109.0	C(7)-C(8)-H(8)	109.0
H(2A)-C(2)-H(2B)	107.8	C(10)-C(9)-C(8)	127.9(4)
C(4)-C(3)-C(2)	111.4(3)	C(10)-C(9)-H(9)	116.0
C(4)-C(3)-H(3A)	109.3	C(8)-C(9)-H(9)	116.0
C(2)-C(3)-H(3A)	109.3	C(9)-C(10)-C(1)	121.9(3)
C(4)-C(3)-H(3B)	109.3	C(9)-C(10)-C(14)	120.6(4)
C(2)-C(3)-H(3B)	109.3	C(1)-C(10)-C(14)	117.5(4)
H(3A)-C(3)-H(3B)	108.0	C(13)-C(11)-C(12)	119.8(4)
C(5)-C(4)-C(15)	124.4(4)	C(13)-C(11)-C(7)	132.4(4)
C(5)-C(4)-C(3)	118.7(4)	C(12)-C(11)-C(7)	107.8(3)
C(15)-C(4)-C(3)	116.7(4)	O(3)-C(12)-O(2)	120.9(4)
C(4)-C(5)-C(6)	127.5(4)	O(3)-C(12)-C(11)	130.1(4)
C(4)-C(5)-H(5)	116.2	O(2)-C(12)-C(11)	109.0(3)



C(11)-C(13)-H(13A)	120.0	O(1)-C(16)-C(17)	112.1(5)
C(11)-C(13)-H(13B)	120.0	C(16)-C(17)-H(17A)	109.5
H(13A)-C(13)-H(13B)	120.0	C(16)-C(17)-H(17B)	109.5
C(10)-C(14)-H(14A)	109.5	H(17A)-C(17)-H(17B)	109.5
C(10)-C(14)-H(14B)	109.5	C(16)-C(17)-H(17C)	109.5
H(14A)-C(14)-H(14B)	109.5	H(17A)-C(17)-H(17C)	109.5
C(10)-C(14)-H(14C)	109.5	H(17B)-C(17)-H(17C)	109.5
H(14A)-C(14)-H(14C)	109.5	O(6)-C(18)-O(4)	119.0(5)
H(14B)-C(14)-H(14C)	109.5	O(6)-C(18)-C(19)	125.3(5)
C(4)-C(15)-H(15A)	109.5	O(4)-C(18)-C(19)	115.7(4)
C(4)-C(15)-H(15B)	109.5	C(18)-C(19)-H(19A)	109.5
H(15A)-C(15)-H(15B)	109.5	C(18)-C(19)-H(19B)	109.5
C(4)-C(15)-H(15C)	109.5	H(19A)-C(19)-H(19B)	109.5
H(15A)-C(15)-H(15C)	109.5	C(18)-C(19)-H(19C)	109.5
H(15B)-C(15)-H(15C)	109.5	H(19A)-C(19)-H(19C)	109.5
O(5)-C(16)-O(1)	122.2(5)	H(19B)-C(19)-H(19C)	109.5
O(5)-C(16)-C(17)	125.7(4)		

**Table C4.** Anisotropic displacement parameters ( $\text{\AA}^2 \times 10^3$ ) for Compound **(66)**.  
The anisotropic displacement factor exponent takes the form:

$$-2p^2 [ h^2 a^* U^{11} + \dots + 2 h k a^* b^* U^{12} ]$$

	$U^{11}$	$U^{22}$	$U^{33}$	$U^{23}$	$U^{13}$	$U^{12}$
O(1)	99(2)	70(2)	51(1)	-1(1)	14(1)	-10(2)
O(2)	64(1)	62(2)	70(1)	5(1)	19(1)	11(1)
O(3)	72(2)	68(2)	118(2)	0(2)	19(2)	17(2)
O(4)	64(2)	101(2)	101(2)	48(2)	-8(1)	-12(2)
O(5)	192(4)	117(4)	66(2)	-29(2)	19(2)	-17(3)
O(6)	156(5)	640(20)	242(7)	308(11)	-111(5)	-224(9)
C(1)	55(2)	70(3)	79(2)	18(2)	7(2)	1(2)

C(2)	73(2)	62(3)	116(4)	10(3)	9(2)	17(2)
C(3)	78(2)	72(3)	98(3)	-4(3)	27(2)	15(2)
C(4)	77(2)	63(3)	73(2)	-7(2)	23(2)	4(2)
C(5)	65(2)	62(3)	65(2)	-11(2)	19(2)	-2(2)
C(6)	67(2)	55(2)	56(2)	-4(2)	9(2)	-11(2)
C(7)	64(2)	47(2)	56(2)	-2(2)	6(2)	-3(2)
C(8)	58(2)	50(2)	60(2)	0(2)	14(2)	3(2)
C(9)	64(2)	55(2)	55(2)	-3(2)	9(2)	-2(2)
C(10)	52(2)	72(3)	64(2)	7(2)	7(2)	-1(2)
C(11)	74(2)	52(2)	66(2)	0(2)	3(2)	5(2)
C(12)	67(2)	50(2)	80(2)	-1(2)	10(2)	5(2)
C(13)	107(4)	100(4)	90(3)	26(3)	4(3)	27(3)
C(14)	66(2)	105(4)	88(3)	13(3)	-10(2)	-4(2)
C(15)	127(4)	61(3)	116(4)	-25(3)	8(3)	-10(3)
C(16)	96(3)	97(4)	51(2)	-6(2)	12(2)	1(3)
C(17)	125(4)	121(5)	65(3)	18(3)	25(3)	-7(4)
C(18)	71(2)	104(4)	67(2)	22(2)	-9(2)	-19(2)
C(19)	101(3)	86(3)	76(3)	6(2)	17(2)	-14(3)

**Table C5.** Hydrogen coordinates ( x 10<sup>4</sup>) and isotropic displacement parameters (Å<sup>2</sup> x 10<sup>3</sup>) for Compound **(66)**.

	x	y	z	U(eq)
H(1)	8286	7493	1990	81
H(2A)	4437	8754	1598	100
H(2B)	5973	9609	2181	100
H(3A)	3873	8264	2946	98
H(3B)	3809	6641	2433	98
H(5)	5404	4481	2978	76
H(6)	9248	4850	3690	71

H(7)	8196	2304	2587	67
H(8)	9690	5536	2270	67
H(9)	7253	3561	1260	69
H(13A)	13373	1479	3453	119
H(13B)	11425	1661	3929	119
H(14A)	3826	6307	884	131
H(14B)	4757	4693	537	131
H(14C)	5308	6478	234	131
H(15A)	6948	8904	3748	152
H(15B)	8652	8328	3240	152
H(15C)	8311	7394	4012	152
H(17A)	5628	1434	4984	154
H(17B)	7043	1996	5680	154
H(17C)	7795	749	5066	154
H(19A)	10227	9640	-79	131
H(19B)	11161	10981	493	131
H(19C)	8916	11085	229	131

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**Table C6.** Torsion angles [°] for Compound **(66)**.

C(18)-O(4)-C(1)-C(10)	-116.8(4)	C(16)-O(1)-C(6)-C(7)	155.8(3)
C(18)-O(4)-C(1)-C(2)	118.1(5)	C(4)-C(5)-C(6)-O(1)	131.4(4)
O(4)-C(1)-C(2)-C(3)	178.5(4)	C(4)-C(5)-C(6)-C(7)	-113.6(4)
C(10)-C(1)-C(2)-C(3)	59.1(5)	O(1)-C(6)-C(7)-C(11)	-75.4(4)
C(1)-C(2)-C(3)-C(4)	43.8(6)	C(5)-C(6)-C(7)-C(11)	165.5(3)
C(2)-C(3)-C(4)-C(5)	-112.2(5)	O(1)-C(6)-C(7)-C(8)	168.2(3)
C(2)-C(3)-C(4)-C(15)	63.1(5)	C(5)-C(6)-C(7)-C(8)	49.1(4)
C(15)-C(4)-C(5)-C(6)	-13.7(7)	C(12)-O(2)-C(8)-C(9)	-146.8(3)
C(3)-C(4)-C(5)-C(6)	161.3(4)	C(12)-O(2)-C(8)-C(7)	-21.5(4)
C(16)-O(1)-C(6)-C(5)	-86.3(4)	C(11)-C(7)-C(8)-O(2)	24.8(3)

C(6)-C(7)-C(8)-O(2)	149.9(3)	C(6)-C(7)-C(11)-C(12)	-142.6(3)
C(11)-C(7)-C(8)-C(9)	144.0(3)	C(8)-C(7)-C(11)-C(12)	-20.5(4)
C(6)-C(7)-C(8)-C(9)	-90.8(4)	C(8)-O(2)-C(12)-O(3)	-170.6(4)
O(2)-C(8)-C(9)-C(10)	-120.1(4)	C(8)-O(2)-C(12)-C(11)	8.4(4)
C(7)-C(8)-C(9)-C(10)	122.4(4)	C(13)-C(11)-C(12)-O(3)	9.4(8)
C(8)-C(9)-C(10)-C(1)	-0.8(6)	C(7)-C(11)-C(12)-O(3)	-172.4(4)
C(8)-C(9)-C(10)-C(14)	-179.7(4)	C(13)-C(11)-C(12)-O(2)	-169.6(4)
O(4)-C(1)-C(10)-C(9)	118.4(4)	C(7)-C(11)-C(12)-O(2)	8.6(4)
C(2)-C(1)-C(10)-C(9)	-122.6(4)	C(6)-O(1)-C(16)-O(5)	-2.7(7)
O(4)-C(1)-C(10)-C(14)	-62.7(4)	C(6)-O(1)-C(16)-C(17)	176.5(4)
C(2)-C(1)-C(10)-C(14)	56.3(5)	C(1)-O(4)-C(18)-O(6)	-1.5(11)
C(6)-C(7)-C(11)-C(13)	35.3(7)	C(1)-O(4)-C(18)-C(19)	179.7(4)
C(8)-C(7)-C(11)-C(13)	157.4(5)		

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Symmetry transformations used to generate equivalent atoms:

*Appendix (D)***Table D1.** Crystal data and structure refinement for Compound (63).

Empirical formula	C <sub>15</sub> H <sub>20</sub> O <sub>4</sub>	
Formula weight	264.31	
Temperature	293(2) K	
Wavelength	0.71073 Å	
Crystal system	Orthorhombic	
Space group	P2 <sub>1</sub> 2 <sub>1</sub> 2 <sub>1</sub>	
Unit cell dimensions	a = 8.6195(7) Å	= 90°.
	b = 10.6697(9) Å	= 90°.
	c = 15.3527(12) Å	= 90°.
Volume	1411.9(2) Å <sup>3</sup>	
Z	4	
Density (calculated)	1.243 Mg/m <sup>3</sup>	
Absorption coefficient	0.089 mm <sup>-1</sup>	
F(000)	568	
Crystal size	0.40 x 0.14 x 0.12 mm <sup>3</sup>	
Theta range for data collection	2.65 to 26.53°.	
Index ranges	-10<=h<=3, -12<=k<=13, -18<=l<=19	
Reflections collected	7767	
Independent reflections	2677 [R(int) = 0.0264]	
Completeness to theta = 25.00°	99.9 %	
Absorption correction	Semi-empirical from equivalents	
Max. and min. transmission	0.989 and 0.968	
Refinement method	Full-matrix least-squares on F <sup>2</sup>	
Data / restraints / parameters	2677 / 0 / 252	
Goodness-of-fit on F <sup>2</sup>	1.071	
Final R indices [I>2sigma(I)]	R1 = 0.0322, wR2 = 0.0811	
R indices (all data)	R1 = 0.0397, wR2 = 0.0886	
Absolute structure parameter	-0.4(10)	
Extinction coefficient	0	

Largest diff. peak and hole

0.107 and -0.127 e.Å<sup>-3</sup>**Table D2.** Atomic coordinates (  $\times 10^4$ ) and equivalent isotropic displacement parameters (Å<sup>2</sup> $\times 10^3$ ) for Compound (**63**). U(eq) is defined as one third of the trace of the orthogonalized U<sup>ij</sup> tensor.

	x	y	z	U(eq)
O(1)	12946(1)	5262(2)	6459(1)	68(1)
O(2)	9714(2)	4923(1)	4057(1)	61(1)
O(3)	11601(2)	4179(2)	3218(1)	81(1)
O(4)	5301(2)	6732(1)	5664(1)	65(1)
C(1)	6751(2)	6542(2)	6109(1)	52(1)
C(2)	6698(2)	7141(2)	7010(1)	61(1)
C(3)	8228(2)	7070(2)	7535(1)	62(1)
C(4)	9633(2)	7102(2)	6948(1)	54(1)
C(5)	10353(2)	6035(2)	6781(1)	49(1)
C(6)	11535(2)	5755(2)	6096(1)	50(1)
C(7)	10869(2)	4759(2)	5478(1)	46(1)
C(8)	9443(2)	5255(2)	4976(1)	46(1)
C(9)	7858(2)	4725(2)	5214(1)	51(1)
C(10)	7177(2)	5159(2)	6062(1)	49(1)
C(11)	11953(2)	4337(2)	4772(1)	52(1)
C(12)	11138(2)	4457(2)	3936(1)	57(1)
C(13)	13390(2)	3906(2)	4804(2)	72(1)
C(14)	6821(2)	4363(2)	6698(1)	63(1)
C(15)	10023(4)	8335(2)	6532(2)	76(1)

**Table D3.** Bond lengths [Å] and angles [°] for Compound (**63**).

O(1)-C(6)	1.437(2)	C(1)-C(10)	1.523(2)
O(2)-C(12)	1.337(2)	C(1)-C(2)	1.525(3)
O(2)-C(8)	1.4734(18)	C(2)-C(3)	1.547(3)
O(3)-C(12)	1.209(2)	C(3)-C(4)	1.510(3)
O(4)-C(1)	1.439(2)	C(4)-C(5)	1.321(2)

C(4)-C(15)	1.500(3)	C(4)-C(5)-C(6)	128.94(16)
C(5)-C(6)	1.495(2)	O(1)-C(6)-C(5)	112.16(13)
C(6)-C(7)	1.536(2)	O(1)-C(6)-C(7)	107.62(15)
C(7)-C(11)	1.499(2)	C(5)-C(6)-C(7)	108.56(13)
C(7)-C(8)	1.544(2)	C(11)-C(7)-C(6)	114.90(14)
C(8)-C(9)	1.523(2)	C(11)-C(7)-C(8)	103.80(12)
C(9)-C(10)	1.501(2)	C(6)-C(7)-C(8)	111.62(13)
C(10)-C(14)	1.329(3)	O(2)-C(8)-C(9)	106.41(13)
C(11)-C(13)	1.322(3)	O(2)-C(8)-C(7)	105.61(12)
C(11)-C(12)	1.469(3)	C(9)-C(8)-C(7)	117.82(13)
		C(10)-C(9)-C(8)	116.42(14)
C(12)-O(2)-C(8)	111.58(13)	C(14)-C(10)-C(9)	122.01(17)
O(4)-C(1)-C(10)	108.87(15)	C(14)-C(10)-C(1)	121.96(17)
O(4)-C(1)-C(2)	110.20(14)	C(9)-C(10)-C(1)	115.68(15)
C(10)-C(1)-C(2)	117.12(16)	C(13)-C(11)-C(12)	120.71(18)
C(1)-C(2)-C(3)	115.20(15)	C(13)-C(11)-C(7)	131.41(18)
C(4)-C(3)-C(2)	111.85(14)	C(12)-C(11)-C(7)	107.88(14)
C(5)-C(4)-C(15)	124.63(18)	O(3)-C(12)-O(2)	121.43(17)
C(5)-C(4)-C(3)	118.21(17)	O(3)-C(12)-C(11)	128.07(18)
C(15)-C(4)-C(3)	116.93(18)	O(2)-C(12)-C(11)	110.49(14)

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Symmetry transformations used to generate equivalent atoms:

**Table D4.** Anisotropic displacement parameters ( $\text{\AA}^2 \times 10^3$ ) for Compound **(63)**.

The anisotropic displacement factor exponent takes the form:

$$-2 \sum_{h k l} [ h^2 a^* U^{11} + \dots + 2 h k a^* b^* U^{12} ]$$

	U <sup>11</sup>	U <sup>22</sup>	U <sup>33</sup>	U <sup>23</sup>	U <sup>13</sup>	U <sup>12</sup>
O(1)	49(1)	109(1)	46(1)	-7(1)	-10(1)	7(1)
O(2)	68(1)	80(1)	34(1)	-1(1)	-5(1)	5(1)
O(3)	94(1)	106(1)	44(1)	-11(1)	17(1)	0(1)
O(4)	59(1)	75(1)	62(1)	7(1)	-10(1)	13(1)
C(1)	48(1)	58(1)	50(1)	4(1)	-2(1)	2(1)
C(2)	61(1)	67(1)	55(1)	-4(1)	5(1)	9(1)

C(3)	68(1)	76(1)	43(1)	-10(1)	2(1)	4(1)
C(4)	57(1)	67(1)	37(1)	-9(1)	-4(1)	-5(1)
C(5)	49(1)	66(1)	33(1)	3(1)	-4(1)	-3(1)
C(6)	46(1)	66(1)	37(1)	2(1)	-3(1)	-5(1)
C(7)	47(1)	53(1)	37(1)	5(1)	-1(1)	-2(1)
C(8)	52(1)	52(1)	33(1)	0(1)	-4(1)	0(1)
C(9)	49(1)	53(1)	52(1)	-3(1)	-7(1)	-3(1)
C(10)	41(1)	56(1)	51(1)	2(1)	-5(1)	-2(1)
C(11)	55(1)	55(1)	47(1)	-2(1)	4(1)	-2(1)
C(12)	66(1)	64(1)	42(1)	1(1)	6(1)	-7(1)
C(13)	62(1)	80(1)	75(1)	-16(1)	6(1)	9(1)
C(14)	62(1)	62(1)	66(1)	11(1)	4(1)	-4(1)
C(15)	97(2)	57(1)	73(1)	-14(1)	11(1)	-15(1)

**Table D5.** Hydrogen coordinates ( $\times 10^4$ ) and isotropic displacement parameters ( $\text{\AA}^2 \times 10^3$ ) for Compound **(63)**.

	x	y	z	U(eq)
H(10)	12970(30)	5470(20)	7004(17)	75(6)
H(40)	4580(40)	6260(30)	5946(18)	111(10)
H(1)	7510(20)	7000(18)	5768(12)	54(5)
H(2A)	6460(30)	8000(20)	6911(16)	86(7)
H(2B)	5850(30)	6750(20)	7335(15)	78(6)
H(3A)	8290(20)	6300(20)	7879(13)	69(6)
H(3B)	8290(30)	7810(20)	7942(17)	89(7)
H(5)	10060(20)	5267(19)	7113(13)	65(5)
H(6)	11740(20)	6508(18)	5750(12)	51(4)
H(7)	10540(20)	4031(19)	5807(12)	63(5)
H(8)	9431(18)	6214(16)	5018(10)	47(4)
H(9A)	7990(20)	3856(19)	5220(12)	55(5)
H(9B)	7130(20)	4962(16)	4722(12)	53(4)
H(13A)	13910(30)	3780(20)	5366(17)	84(7)
H(13B)	13960(30)	3720(20)	4187(17)	94(7)
H(14A)	6990(30)	3460(20)	6626(15)	76(6)



H(14B)	6330(20)	4640(20)	7260(14)	68(6)
H(15A)	9210(40)	8880(30)	6540(20)	131(12)
H(15B)	10840(50)	8730(40)	6850(30)	172(15)
H(15C)	10490(40)	8320(30)	6010(30)	144(13)

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**Table D6.** Torsion angles [°] for Compound **(63)**.

O(4)-C(1)-C(2)-C(3)	-176.50(17)	O(2)-C(8)-C(9)-C(10)	-168.14(14)
C(10)-C(1)-C(2)-C(3)	58.3(2)	C(7)-C(8)-C(9)-C(10)	73.65(19)
C(1)-C(2)-C(3)-C(4)	31.6(2)	C(8)-C(9)-C(10)-C(14)	-120.41(18)
C(2)-C(3)-C(4)-C(5)	-101.7(2)	C(8)-C(9)-C(10)-C(1)	66.20(19)
C(2)-C(3)-C(4)-C(15)	73.0(2)	O(4)-C(1)-C(10)-C(14)	-94.8(2)
C(15)-C(4)-C(5)-C(6)	-8.2(3)	C(2)-C(1)-C(10)-C(14)	31.0(2)
C(3)-C(4)-C(5)-C(6)	166.05(15)	O(4)-C(1)-C(10)-C(9)	78.62(17)
C(4)-C(5)-C(6)-O(1)	123.79(19)	C(2)-C(1)-C(10)-C(9)	-155.57(15)
C(4)-C(5)-C(6)-C(7)	-117.44(19)	C(6)-C(7)-C(11)-C(13)	52.8(3)
O(1)-C(6)-C(7)-C(11)	-55.93(18)	C(8)-C(7)-C(11)-C(13)	175.0(2)
C(5)-C(6)-C(7)-C(11)	-177.53(14)	C(6)-C(7)-C(11)-C(12)	-127.78(15)
O(1)-C(6)-C(7)-C(8)	-173.76(12)	C(8)-C(7)-C(11)-C(12)	-5.62(18)
C(5)-C(6)-C(7)-C(8)	64.64(17)	C(8)-O(2)-C(12)-O(3)	-176.84(17)
C(12)-O(2)-C(8)-C(9)	-133.57(15)	C(8)-O(2)-C(12)-C(11)	4.1(2)
C(12)-O(2)-C(8)-C(7)	-7.59(18)	C(13)-C(11)-C(12)-O(3)	1.8(3)
C(11)-C(7)-C(8)-O(2)	7.74(17)	C(7)-C(11)-C(12)-O(3)	-177.72(19)
C(6)-C(7)-C(8)-O(2)	132.06(13)	C(13)-C(11)-C(12)-O(2)	-179.26(18)
C(11)-C(7)-C(8)-C(9)	126.37(15)	C(7)-C(11)-C(12)-O(2)	1.24(19)
C(6)-C(7)-C(8)-C(9)	-109.31(16)		

**Table D7.** Hydrogen bonds for Compound **(63)** [ $\text{\AA}$  and  $^\circ$ ].

D-H...A	d(D-H)	d(H...A)	d(D...A)	$\angle(\text{DHA})$
O(1)-H(1O)...O(3)#1	0.87(3)	1.94(3)	2.7935(19)	170(2)
O(4)-H(4O)...O(1)#2	0.92(3)	1.93(3)	2.841(2)	175(3)

Symmetry transformations used to generate equivalent atoms:

#1  $-x+5/2, -y+1, z+1/2$  #2  $x-1, y, z$