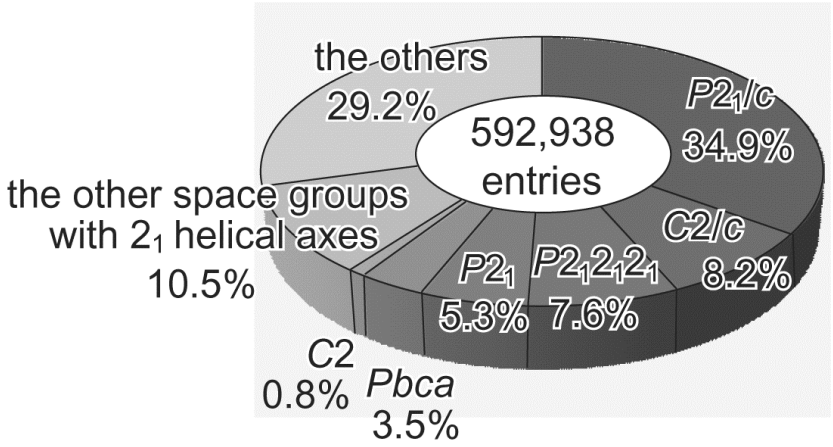
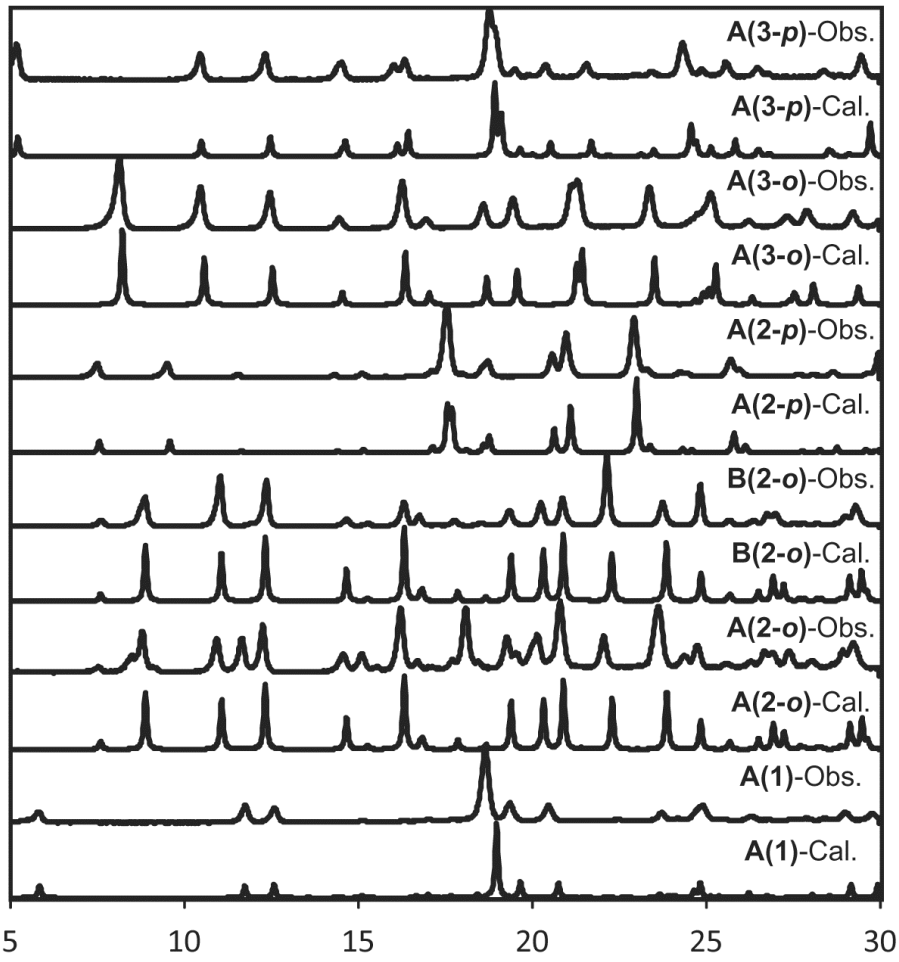
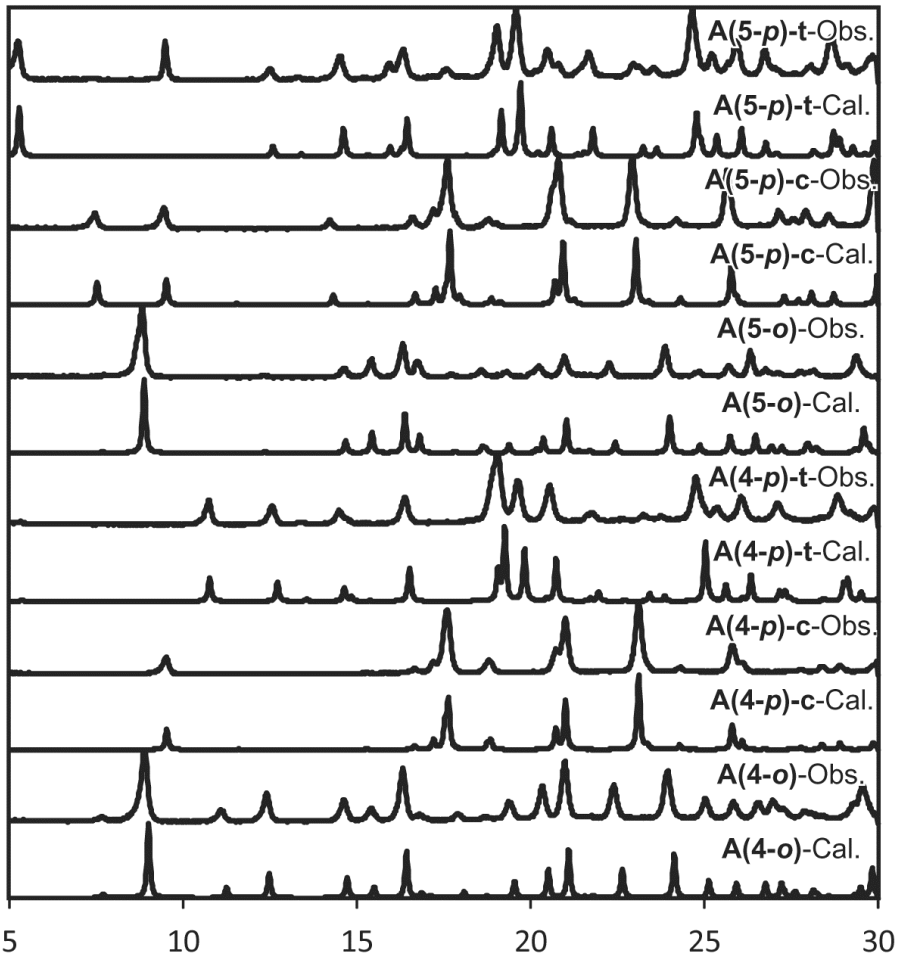


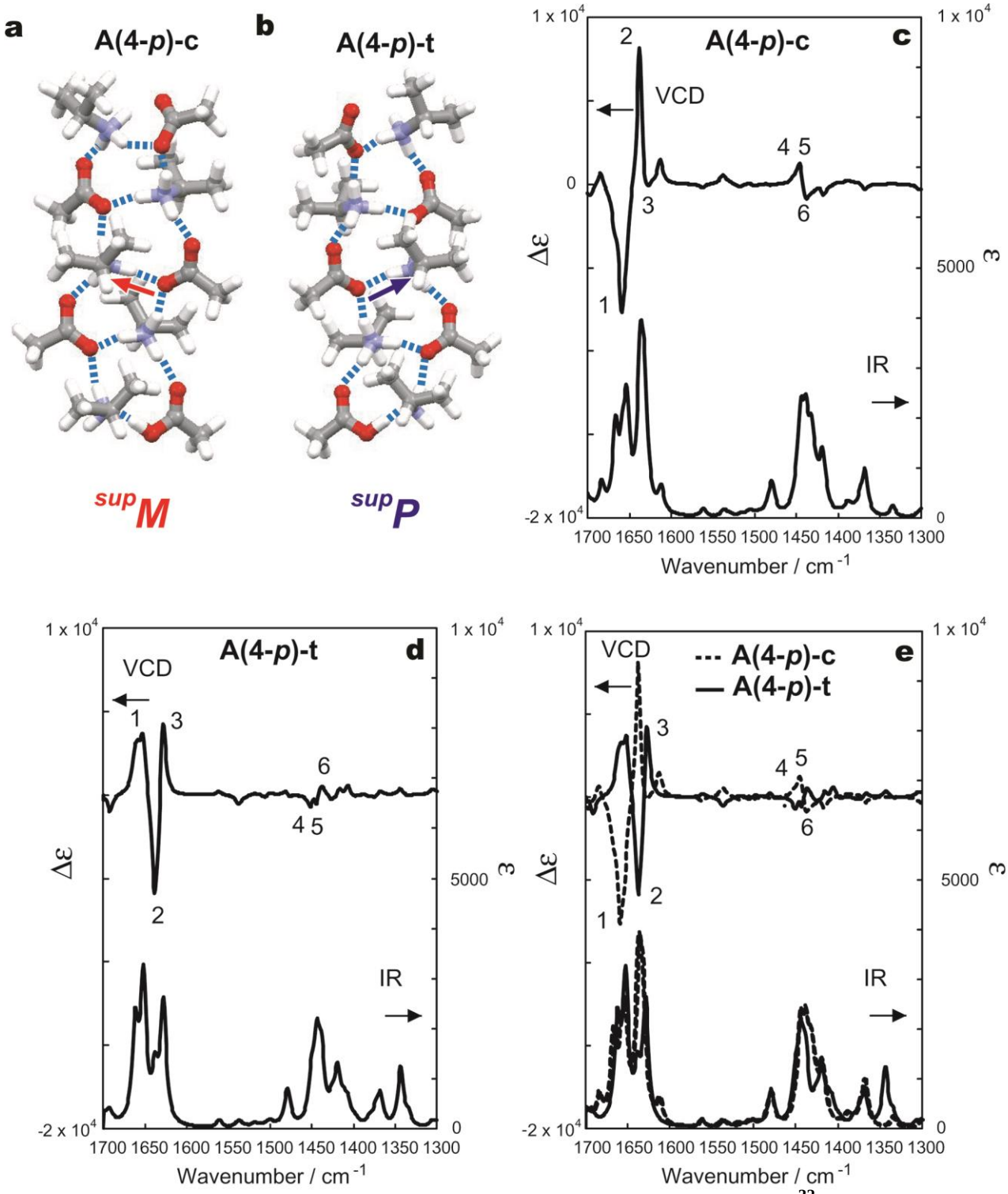
Supplementary Figure S1. Graphical representation of space group statistics for crystals registered in the Cambridge Structural Database (Jan. 1. 2012).



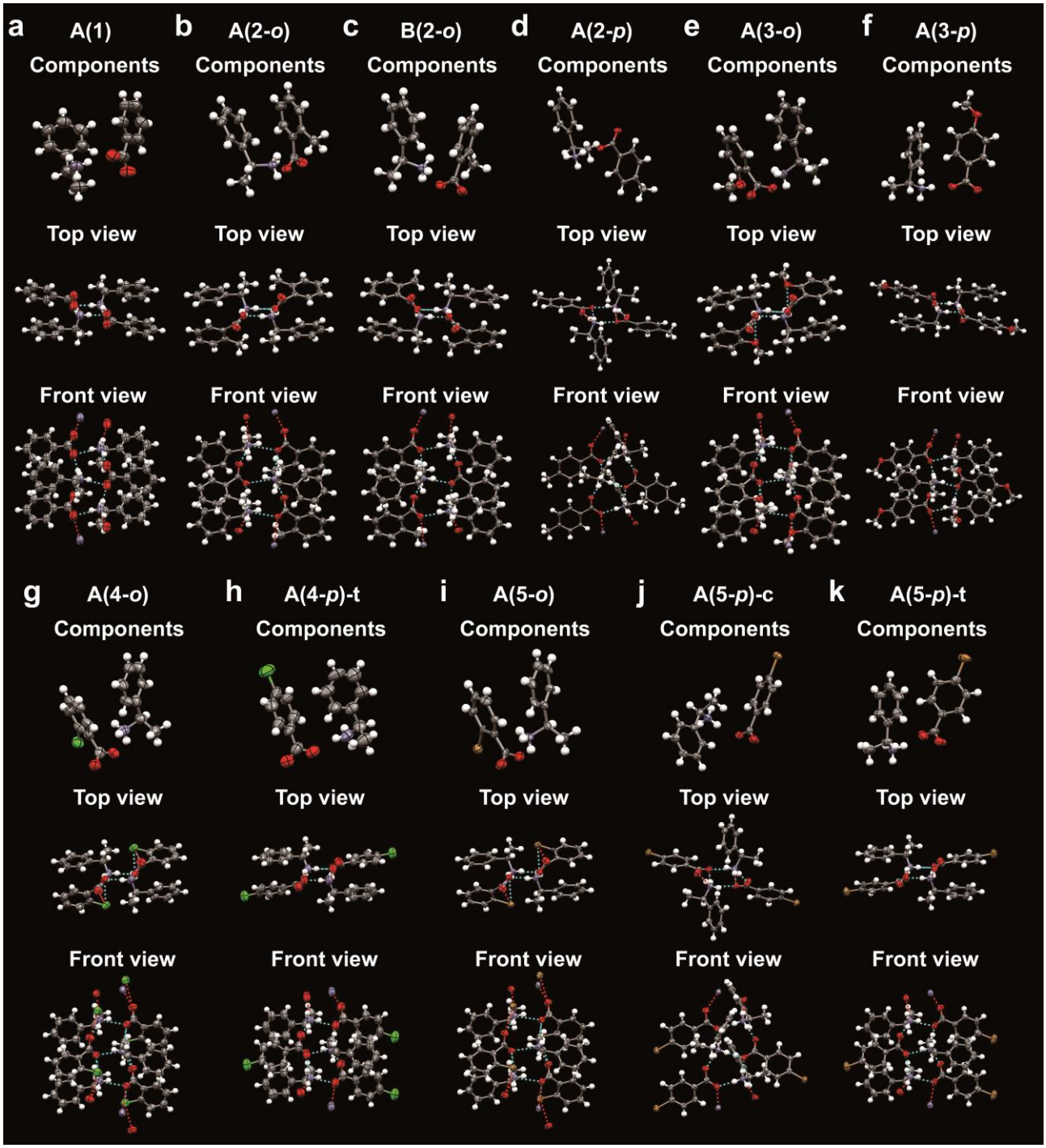
Supplementary Figure S2. Powder X-ray diffraction patterns of the A(1) to A(3-*p*) salts.



Supplementary Figure S3. Powder X-ray diffraction patterns of the A(4-*o*) to A(5-*p*)-t salts.



Supplementary Figure S4. Calculated vibrational circular dichroism spectra[32]. Optimised assembly manner of **A(4-*p*)-c** (a) and **A(4-*p*)-t** (b), whose phenyl rings were replaced by methyl groups. The calculated VCD and IR spectra of **A(4-*p*)-c** (c) and **A(4-*p*)-t** (d) as well as their superimposed spectra (e) based on (a) and (b) are shown.



Supplementary Figure S5. Crystal structures of A(1) to A(5-*p*)-t with thermal ellipsoids at 50% probability.

Supplementary Table S1. Crystal parameters of the A(1) to A(5-*p*)-t salts.

Entry	Handedness	Space group	θ_r (°)[a]	θ_d (°)[b]	Length of HB $d_1/d_2/d_3$ (Å)[c]
A(1)	*R*-^{sup}*M*	$P2_12_12_1$	+5.3	+1.25	2.828/2.756/2.759
A(2-*o*)	*R*-^{sup}*P*	*C*2	-34.8	+62.17	2.748/2.789/2.709
B(2-*o*)	*S*-^{sup}*M*	*C*2	+32.8	-62.05	2.747/2.787/2.702
A(2-*p*)	*R*-^{sup}*M*	$P2_12_12_1$	+28.4	-6.42	2.744/2.803/2.709
A(3-*o*)	*R*-^{sup}*P*	*C*2	-41.2	+69.44	2.761/2.822/2.720
A(3-*p*)	*R*-^{sup}*M*	$P2_12_12_1$	+11.0	-3.24	2.791/2.766/2.764
A(4-*o*)	*R*-^{sup}*P*	*C*2	-36.7	+62.97	2.758/2.820/2.735
A(4-*p*)-c[d]	*R*-^{sup}*M*	$P2_12_12_1$	+28.8	-9.31	2.737/2.812/2.723
A(4-*p*)-t	*R*-^{sup}*P*	$P2_12_12_1$	-19.8	+33.46	2.732/2.827/2.687
A(5-*o*)	*R*-^{sup}*P*	*C*2	-36.4	+61.97	2.768/2.838/2.697
A(5-*p*)-c	*R*-^{sup}*M*	$P2_12_12_1$	+28.1	-9.16	2.752/2.789/2.712
A(5-*p*)-t	*R*-^{sup}*P*	$P2_12_12_1$	-22.5	+34.22	2.726/2.829/2.698

[a] Tilted angles of carboxylates compared to line *l*, which is perpendicular to the helical axis. [b] Angles of carboxylic groups relative to the benzene rings. [c] Distance between the nitrogen atoms and the oxygen atoms. [d] See ref. 23.

Supplementary Table S2. Crystallographic data for A(1), A(2-*o*) and B(2-*o*).

	A(1)	**A(2-*o*)**	**B(2-*o*)**
Formula	$C_{15}H_{17}NO_2$	$C_{16}H_{19}NO_2$	$C_{16}H_{19}NO_2$
Formula weight	243.30	257.33	257.33
Crystal shape	platelet	block	block
Crystal colour	colorless	colorless	colorless
Crystal size [mm]	0.50 × 0.20 × 0.02	0.80 × 0.80 × 0.80	0.30 × 0.10 × 0.10
Crystal system	orthorhombic	monoclinic	monoclinic
Space group	$P2_12_12_1$ (#19)	$C2$ (#5)	$C2$ (#5)
a (Å)	6.2479(3)	19.9102(7)	19.9148(4)
b (Å)	7.2047(3)	6.3171(2)	6.31798(12)
c (Å)	30.0153(11)	11.6297(4)	11.6330(2)
α(˚)	90	90	90
β(˚)	90	96.1560(19)	96.2021(10)
γ (˚)	90	90	90
V (Å^3)	1351.11(9)	1454.29(8)	1455.11(5)
Z	4	4	4
D (g/cm^3)	1.196	1.175	1.175
T (K)	213.1	213.1	213.1
collected reflections	15659	6455	6674
unique reflections	2439	2023	2038
$R1$ ($I > 2.0\sigma(I)$)	0.0850	0.0409	0.0414
$wR2$ (all data)	0.2630	0.1116	0.1281
GOF	1.044	1.082	1.126
Flack parameter	0.5(9)	-0.0(2)	-0.0(3)
Supramolecular chirality	^{sup}M	^{sup}P	^{sup}M
CCDC	898257	898260	898267

Supplementary Table S3. Crystallographic data for A(2-*p*), A(3-*o*) and A(3-*p*).

	A(2-*p*)	**A(3-*o*)**	**A(3-*p*)**
Formula	$C_{16}H_{19}NO_2$	$C_{16}H_{19}NO_3$	$C_{16}H_{19}NO_3$
Formula weight	257.33	273.33	273.33
Crystal shape	needle	platelet	platelet
Crystal colour	colorless	colorless	colorless
Crystal size [mm]	0.54 × 0.05 × 0.01	0.60 × 0.20 × 0.05	0.50 × 0.40 × 0.30
Crystal system	orthorhombic	monoclinic	orthorhombic
Space group	$P2_12_12_1$ (#19)	$C2$ (#5)	$P2_12_12_1$ (#19)
a (Å)	6.00560(10)	21.6828(8)	6.12993(11)
b (Å)	9.97430(10)	6.3306(3)	7.22905(13)
c (Å)	23.2107(3)	10.9581(4)	33.5697(6)
α(˚)	90	90	90
β(˚)	90	99.644(2)	90
γ (˚)	90	90	90
V (Å^3)	1390.36(3)	1482.89(10)	1487.60(5)
Z	4	4	4
D (g/cm^3)	1.229	1.224	1.220
T (K)	213.1	213.1	213.1
collected reflections	1883	6725	25808
unique reflections	1883	2082	2684
$R1$ ($I > 2.0\sigma(I)$)	0.0656	0.0467	0.0359
$wR2$ (all data)	0.1824	0.1189	0.1009
GOF	1.153	1.091	1.077
Flack parameter	-2(2)	-0.2(3)	0.1(2)
Supramolecular chirality	^{sup}M	^{sup}P	^{sup}M
CCDC	898265	898261	898266

Supplementary Table S4. Crystallographic data for A(4-*o*), A(4-*p*)-t and A(5-*o*).

	A(4-*o*)	**A(4-*p*)-t**	**A(5-*o*)**
Formula	$C_{15}H_{16}ClNO_2$	$C_{15}H_{16}ClNO_2$	$C_{15}H_{16}BrNO_2$
Formula weight	277.75	277.75	322.20
Crystal shape	platelet	chunk	chunk
Crystal colour	colorless	colorless	colorless
Crystal size [mm]	0.30 × 0.10 × 0.01	0.80 × 0.10 × 0.05	0.30 × 0.10 × 0.05
Crystal system	monoclinic	orthorhombic	monoclinic
Space group	*C*2 (#5)	$P2_12_12_1$ (#19)	*C*2 (#5)
a (Å)	19.6704(6)	6.1390(7)	19.9477(4)
b (Å)	6.3049(2)	7.1015(7)	6.31696(15)
c (Å)	11.4702(4)	32.763(3)	11.5117(3)
α(˚)	90	90	90
β(˚)	95.949(2)	90	95.8585(14)
γ (˚)	90	90	90
V (Å^3)	1414.86(8)	1428.3(2)	1443.00(6)
Z	4	4	4
D (g/cm^3)	1.304	1.292	1.483
T (K)	213.1	213.1	213.1
collected reflections	6434	15132	7706
unique reflections	2210	2615	2544
*R*1 ($I > 2.0\sigma(I)$)	0.0881	0.0881	0.0862
*wR*2 (all data)	0.2631	0.3095	0.2013
GOF	1.088	0.909	1.106
Flack parameter	0.03(5)	-0.04(7)	0.03(6)
Supramolecular chirality	^{sup}P	^{sup}P	^{sup}P
CCDC	898259	898264	898258

Supplementary Table S5. Crystallographic data for A(5-*p*)-c and A(5- *p*)-t.

	A(5-*p*)-c	**A(5-*p*)-t**
Formula	$C_{15}H_{16}BrNO_2$	$C_{15}H_{16}BrNO_2$
Formula weight	322.20	322.20
Crystal shape	needle	chunk
Crystal colour	colourless	colorless
Crystal size [mm]	0.80 × 0.10 × 0.10	0.80 × 0.10 × 0.05
Crystal system	orthorhombic	orthorhombic
Space group	$P2_12_12_1$ (#19)	$P2_12_12_1$ (#19)
a (Å)	5.94850(11)	6.1477(2)
b (Å)	10.08149(18)	7.1718(2)
c (Å)	23.3879(4)	33.2349(9)
α(˚)	90	90
β(˚)	90	90
γ (˚)	90	90
V (Å^3)	1402.57(4)	1465.33(8)
Z	4	4
D (g/cm^3)	1.526	1.460
T (K)	213.1	213.1
collected reflections	22715	15079
unique reflections	2519	2657
*R*1 ($I > 2.0\sigma(I)$)	0.0406	0.0757
*wR*2 (all data)	0.0946	0.2038
GOF	1.187	1.057
Flack parameter	-0.03(3)	-0.01(5)
Supramolecular chirality	^{sup}M	^{sup}P
CCDC	898262	898263

Supplementary References

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