



Figure S2. ¹³C NMR spectrum of compound A1

















Figure S12. HRMS spectrum of compound A4















Figure S20. ¹³C NMR spectrum of compound A7







Figure S24. HRMS spectrum of compound A8



Figure S26. ¹³C NMR spectrum of compound A9







Figure S30. HRMS spectrum of compound B1















Figure S38. ¹³C NMR spectrum of compound B4



Figure S40 ¹H NMR spectrum of compound B5





















fl (ppm)



Figure S50. ¹³C NMR spectrum of compound B8



Figure S52. ¹H NMR spectrum of compound B9







Figure S56. ¹³C NMR spectrum of compound B10











Figure S62. ¹³C NMR spectrum of compound B12













Figure S69. HRMS spectrum of compound B14







Figure S73. ¹H NMR spectrum of compound C2

















Figure S83. ¹³C NMR spectrum of compound C5

- 6 7 8













Figure S91. ¹H NMR spectrum of compound C8

















Figure S101. ¹³C NMR spectrum of compound C11



Figure S102. HRMS spectrum of compound C11

compounds	A6
Chemical formula	C ₁₆ H ₁₆ FNO3
Formula weight	289.30
Temperature (K)	273.15
Wavelength	1.54178
Crystal system	triclinic
Space group	<i>P</i> -1
a (Å)	6.2002(2)
b (Å)	9.7846(4)
c (Å)	12.3705(4)
α (°)	92.156(2)
β (°)	99.798(2)
γ (°)	106.066(2)
Volume (Å ³)	707.79(2)
Cell formula units Z	2
Density (calculated)(g/cm ³)	1.357
Absorption coefficient μ (mm ⁻¹)	0.857
F(000)	304.0
Crystal size (mm ³)	$0.22\times0.2\times0.18$
Radiation	$\lambda = 1.54178$
Theta range for data collection	9.444 to 133.124
Reflections collected	6906
Independent reflections	$2024[R_{(int)} = 0.0509, R_{(sigma)} = 0.0540]$
Data / restraints / parameters	2404/0/190
Goodness-of-fit on F ²	1.080
Final <i>R</i> indices $[I \ge 2\sigma(I)]$	$R_1 = 0.0609, wR_2 = 0.1603$
Final <i>R</i> indices [all data]	$R_1 = 0.0666, wR_2 = 0.1664$

Table S1. The single crystal XRD data of A6

compounds	B11
Chemical formula	C ₁₈ H ₁₄ FNO3
Formula weight	311.30
Temperature (K)	273.15
Wavelength	1.54178
Crystal system	triclinic
Space group	<i>P</i> -1
a (Å)	7.140
b (Å)	8.000
c (Å)	14.400
α (°)	98.00
eta (°)	96.27
γ (°)	113.48
Volume (Å ³)	734.7
Cell formula units Z	2
Density (calculated)(g/cm ³)	1.407
Absorption coefficient μ (mm ⁻¹)	0.874
F(000)	324.0
Crystal size (mm ³)	0.22 imes 0.2 imes 0.18
Radiation	$\lambda = 1.54178$
Theta range for data collection	12.312 to 134.224
Reflections collected	2588
Independent reflections	$2588[R_{(int)}=0, R_{(sigma)}=0.0274]$
Data / restraints / parameters	2588/0/210
Goodness-of-fit on F ²	1.212
Final <i>R</i> indices $[I>2\sigma(I)]$	$R_1 = 0.0842, wR_2 = 0.2641$
Final <i>R</i> indices [all data]	$R_1 = 0.0963, wR_2 = 0.2844$

Table S2. The single crystal XRD data of B11

compounds	C2
Chemical formula	C ₁₃ H ₁₂ FNO3
Formula weight	249.24
Temperature (K)	296
Wavelength	0.71073
Crystal system	triclinc
Space group	<i>P</i> -1
a (Å)	5.140(3)
b (Å)	10.708(6)
c (Å)	11.455(6)
α (°)	109.331(13)
β (°)	95.618(12)
γ (°)	99.899(11)
Volume (Å ³)	577.9(5)
Cell formula units Z	2
Density (calculated)(g/cm ³)	1.432
Absorption coefficient μ (mm ⁻¹)	0.113
F(000)	260.0
Crystal size (mm ³)	0.22 imes 0.2 imes 0.18
Radiation	$\lambda = 0.71073$
Theta range for data collection	3.274 to 24.977
Reflections collected	11135
Independent reflections	$1944[R_{(int)} = 0.1163, R_{(sigma)} = 0.1183]$
Data / restraints / parameters	1944/0/152
Goodness-of-fit on F ²	1.005
Final <i>R</i> indices $[I \ge 2\sigma(I)]$	$R_1 = 0.1278, wR_2 = 0.2157$
Final <i>R</i> indices [all data]	$R_1 = 0.2408, wR_2 = 0.2538$

Table S3. The single crystal XRD data of C2

compounds	C7
Chemical formula	C ₁₆ H ₁₆ FNO3
Formula weight	289.30
Temperature (K)	273.15
Wavelength	1.54178
Crystal system	monoclinic
Space group	C2/c
a (Å)	24.9849(4)
b (Å)	5.50780(10)
c (Å)	20.0851(3)
α (°)	90
β (°)	96.2800(10)
γ (°)	90
Volume (Å ³)	2747.36(8)
Cell formula units Z	8
Density (calculated)(g/cm ³)	1.399
Absorption coefficient μ (mm ⁻¹)	0.883
F(000)	1216.0
Crystal size (mm ³)	0.22 imes 0.2 imes 0.18
Radiation	$\lambda = 1.54178$
Theta range for data collection	7.118 to 144.282
Reflections collected	12021
Independent reflections	$2660[R_{(int)}=0.0556, R_{(sigma)}=0.0568]$
Data / restraints / parameters	2660/0/191
Goodness-of-fit on F ²	1.321
Final <i>R</i> indices $[I>2\sigma(I)]$	$R_1 = 0.0865, wR_2 = 0.2795$
Final <i>R</i> indices [all data]	$R_1 = 0.0902, wR_2 = 0.2872$

Table S4. The single crystal XRD data of C7