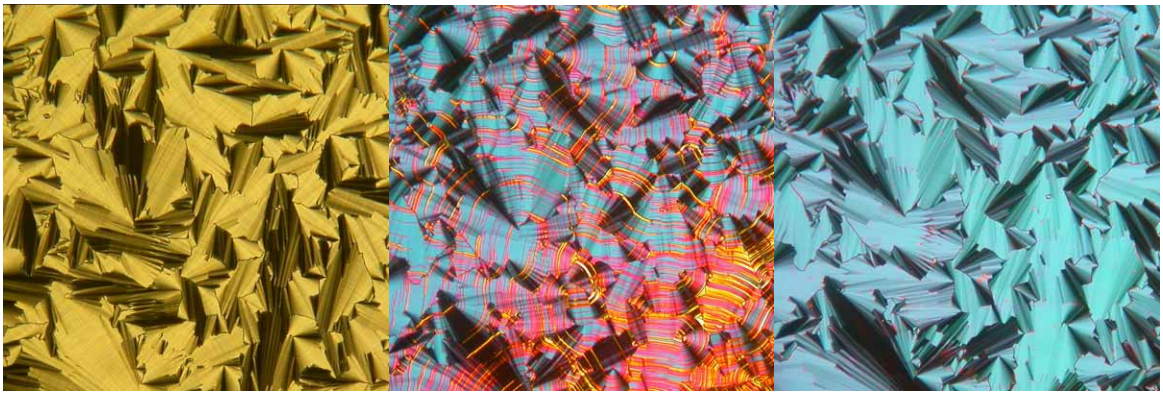
Electronic supplementary information.

In this addendum we include the preparation of the monologues to the materials described in the article as well as include some pictures of the antiferroelectric switching behaviour of **di(7F4PPB6)3Si.**

Extra pictures of a typical antiferroelectric to ferroelectric transition in the dimers.



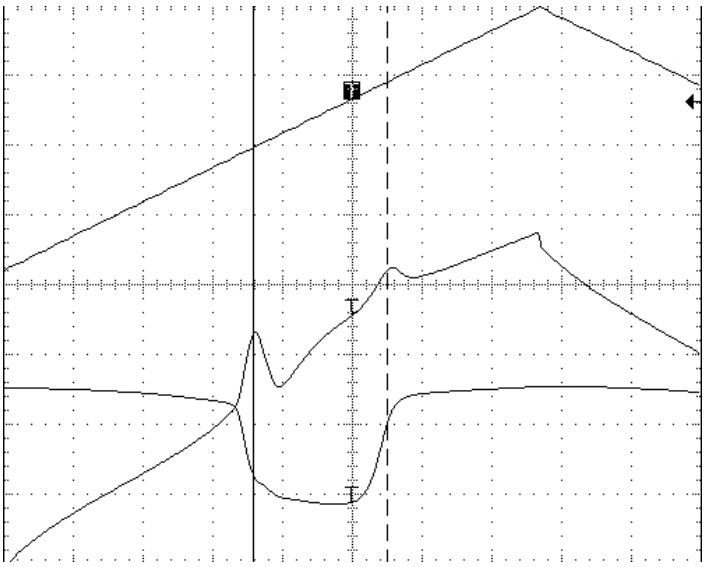
a) **b)** **c)**

a) A picture of the antiferroelectric phase.

b) A picture of the same area under a dc field just at the transition to the induced ferroelectric state.

c) A picture of the same area in the induced ferroelectric state.

The pictures a-c show the transition between the antiferroelectric state into the induced ferroelectric state with the clear solitary waves invading the anticlinic liquid crystal phase. The AF-F transition is also seen in the current response in the oscilloscope in the following picture where the two current peaks coinciding with the optical changes are shown clearly.



Extra synthesis information concerning 3b-3e and 4b-4f:

Preparation of *4'-But-3-enyloxy-biphenyl-4-carboxylic acid 4-[1-(2,2,3,3,4,4,4-heptafluoro-butoxycarbonyl)- 1-(R)-ethoxy]-phenyl ester* (**3b**) **7F4PPB4**

This was prepared from **1** and *4'-But-3-enyloxy-biphenyl-4-carboxylic acid* (**2b**)**,** similarly to **3a** but with 1.5 equivalents of DCC. Yield 64%.

^{1}H NMR in $CDCl_3$ δ 1.59(d, 3 H), 2.59 (q, 2 H), 4.08 (t, 2 H), 4.68 (t, 2 H), 4.85 (q, 1 H),5.2 (d+d, 2 H), 5.93 (m, 1 H), 6.92 (d, 2 H), 6.96 (d, 2 H), 7.14 (d, 2 H), 7.61(d, 2 H), 7.69(d, 2H), 8.23 (d, 2H)

Preparation of *4'-Pent-4-enyloxy-biphenyl-4-carboxylic acid 4-[1-(2,2,3,3,4,4,4-heptafluoro-butoxycarbonyl)- 1-(R)-ethoxy]-phenyl ester* (**3c**) **7F4PPB5**

This was prepared from **1** and *4'-Pent-4-enyloxy-biphenyl-4-carboxylic acid* (**2c**) similarly to **3b**. Yield 74%

^{1}H NMR in $CDCl_3$ δ 1.68 (d, 3 H), 1.95 (quintet, 2 H), 2.27(q, 2 H), 4.06 (t, 2 H), 4.69 (t, 2 H), 4.87 (q, 1 H),5.2 (d+d, 2 H), 5.88 (m, 1 H), 6.92 (d, 2 H), 6.99 (d, 2 H), 7.16 (d, 2 H),7.58 (d, 2 H), 7.67(d, 2 H), 8.23 (d, 2H)

Preparation of *4'-Hex-5-enyloxy-biphenyl-4-carboxylic acid 4-[1-(2,2,3,3,4,4,4-heptafluoro-butoxycarbonyl)-1-(R)-ethoxy]-phenyl ester* (**3d**) **7F4PPB6**

3d was prepared from **1** and *4'-Hex-5-enyloxy-biphenyl-4-carboxylic acid* (**2d**) in a similar way to **3b**. Yield 78.8%

^{1}H NMR in $CDCl_3$ δ 1.60 (m, 2 H), 1.68 (d, 3 H), 1.84 (p, 2 H), 2.15(q, 2 H), 4.03 (t, 2 H), 4.68 (t, 2 H), 4.87 (q, 1 H),5.1 (d+d, 2 H), 5.85 (m, 1 H), 6.92 (d, 2 H), 6.99 (d, 2 H), 7.16 (d, 2 H),7.58 (d, 2 H), 7.67(d, 2 H), 8.23 (d, 2 H)

Preparation of *4'-Undec-10-enyloxy-biphenyl-4-carboxylic acid 4-[1-(2,2,3,3,4,4,4-heptafluoro-butoxycarbonyl)-1-(R)-ethoxy]-phenyl ester* (**3e**) **7F4PPB11**

3e was prepared from **1** and *4'-Undec-10-enyloxy-biphenyl-4-carboxylic acid* **(2e)** in a similar way to **3b** Yield 61%.

^{1}H NMR in $CDCl_3$ δ 1.32-1.7 (m, 12 H), 1.68 (d, 3 H), 1.84 (p, 2 H), 2.05(q, 2 H), 4.03 (t, 2 H), 4.68 (t, 2 H), 4.87 (q, 1 H),5.1 (d+d, 2 H), 5.82 (m, 1 H), 6.92 (d, 2 H), 6.99 (d, 2 H), 7.16 (d, 2 H),7.58 (d, 2 H), 7.67(d, 2 H), 8.23 (d, 2 H)

Preparation of *1,5-Di(4'-But-3-enyloxy-biphenyl-4-carboxylic acid 4-[1-(2,2,3,3,4,4,4-heptafluoro-butoxycarbonyl)- 1-(R)-ethoxy]-phenyl ester) 1,1,3,3,5,5-hexamethyltrisiloxane* **(4b)**

di(7F4PPB4)3Si was made from 1 and 3b similarly to **4a**. Yield 80%.

^{1}H NMR in $CDCl_3$ δ 0.1 (m, 18 H), 0.63 (m, 4 H), 1.56 (m, 4 H),1.68 (d, 6H), 1.87 (m, 4 H),4.01 (m, 4 H), 4.69 (t, 4 H), 4.88 (q, 2 H), 6.92 (d, 4 H),6.99 (d, 4 H), 7.15 (d, 4 H), 7.56 (d, 4 H), 7.66 (d, 4 H), 8.21 (d, 4 H)

Preparation of *1,5-Di(4'-Pent-4-enyloxy-biphenyl-4-carboxylic acid 4-[1-(2,2,3,3,4,4,4-heptafluoro-butoxycarbonyl)- 1-(R)-ethoxy]-phenyl ester) 1,1,3,3,5,5-hexamethyltrisiloxane* **(4c)**

di(7F4PPB5)3Si was made from 1 and 3c similarly to **4a**. Yield 77%.

^{1}H NMR in $CDCl_3$ δ 0.1 (m, 18 H), 0.63 (m, 4 H), 1.5 (m, 8 H),1.68 (d, 6 H), 1.83 (m, 4 H),4.01 (m, 4 H), 4.69 (t, 4 H), 4.88 (q, 2 H), 6.92 (d, 4 H),6.99 (d, 4 H), 7.15 (d, 4 H), 7.56 (d, 4 H), 7.66 (d, 4 H), 8.21 (d, 4 H)

Preparation of *1,5-Di(4'-Hex-5-enyloxy-biphenyl-4-carboxylic acid 4-[1-(2,2,3,3,4,4,4-heptafluoro-butoxycarbonyl)-1-(R)-ethoxy]-phenyl ester) 1,1,3,3,5,5-hexamethyltrisiloxane* **(4d)**

di(7F4PPB6)3Si was made from 1 and 3d similarly to **4a**. Yield 74%.

^{1}H NMR in $CDCl_3$ δ 0.1 (m, 18 H), 0.60 (m, 4 H), 1.4-1.5 (m, 12 H),1.68 (d, 6 H), 1.81 (m, 4 H),4.01 (m, 4 H), 4.69 (t, 4 H), 4.88 (q, 2 H), 6.92 (d, 4 H),6.99 (d, 4 H), 7.15 (d, 4 H), 7.56 (d, 4 H), 7.66 (d, 4 H), 8.21 (d, 4 H)

Preparation of *1,5-Di(4'-Undec-10-enyloxy-biphenyl-4-carboxylic acid 4-[1-(2,2,3,3,4,4,4-heptafluoro-butoxycarbonyl)-1-(R)-ethoxy]-phenyl ester) 1,1,3,3,5,5-hexamethylsiloxane* **(4e)**

di(7F4PPB11)3Si was made from 1 and 3e similarly to **4a**. Yield 83%.

^{1}H NMR in $CDCl_3$ δ 0.05 (m, 18 H), 0.54 (m, 4 H), 1.3-1.6 (m, 32 H), 1.68 (d, 6H), 1.81 (m, 4 H), 4.01 (m, 4 H), 4.69 (t, 4 H), 4.88 (q, 2 H), 6.92 (d, 4 H),6.97 (d, 4 H), 7.15 (d, 4 H), 7.56 (d, 4 H), 7.66 (d, 4 H), 8.21 (d, 4 H)

Preparation of *1,7-Di(4'-Hex-5-enyloxy-biphenyl-4-carboxylic acid 4-[1-(2,2,3,3,4,4,4-heptafluoro-butoxycarbonyl)-1-(R)-ethoxy]-phenyl ester) 1,1,3,3,5,5,7,7-octamethyltetrasiloxane* **(4f)**

di(7F4PPB6)4Si was made from 1 and 3d similarly to **4a** except that dihydro-1,1,3,3,5,5,7,7-octamethyltetrasiloxane was used as the siloxane core. Yield 74%.

^{1}H NMR in $CDCl_3$ δ 0.1 (m, 24 H), 0.60 (m, 4 H), 1.4-1.5 (m, 12 H),1.68 (d, 6 H), 1.81 (m, 4 H),4.01 (m, 4 H), 4.69 (t, 4 H), 4.88 (q, 2 H), 6.92 (d, 4 H),6.99 (d, 4 H), 7.15 (d, 4 H), 7.56 (d, 4 H), 7.66 (d, 4 H), 8.21 (d, 4 H)