1 Supplementary Information

2 **On relaxation dynamics of double glass-forming antiferroelectric liquid**

3 **crystal**
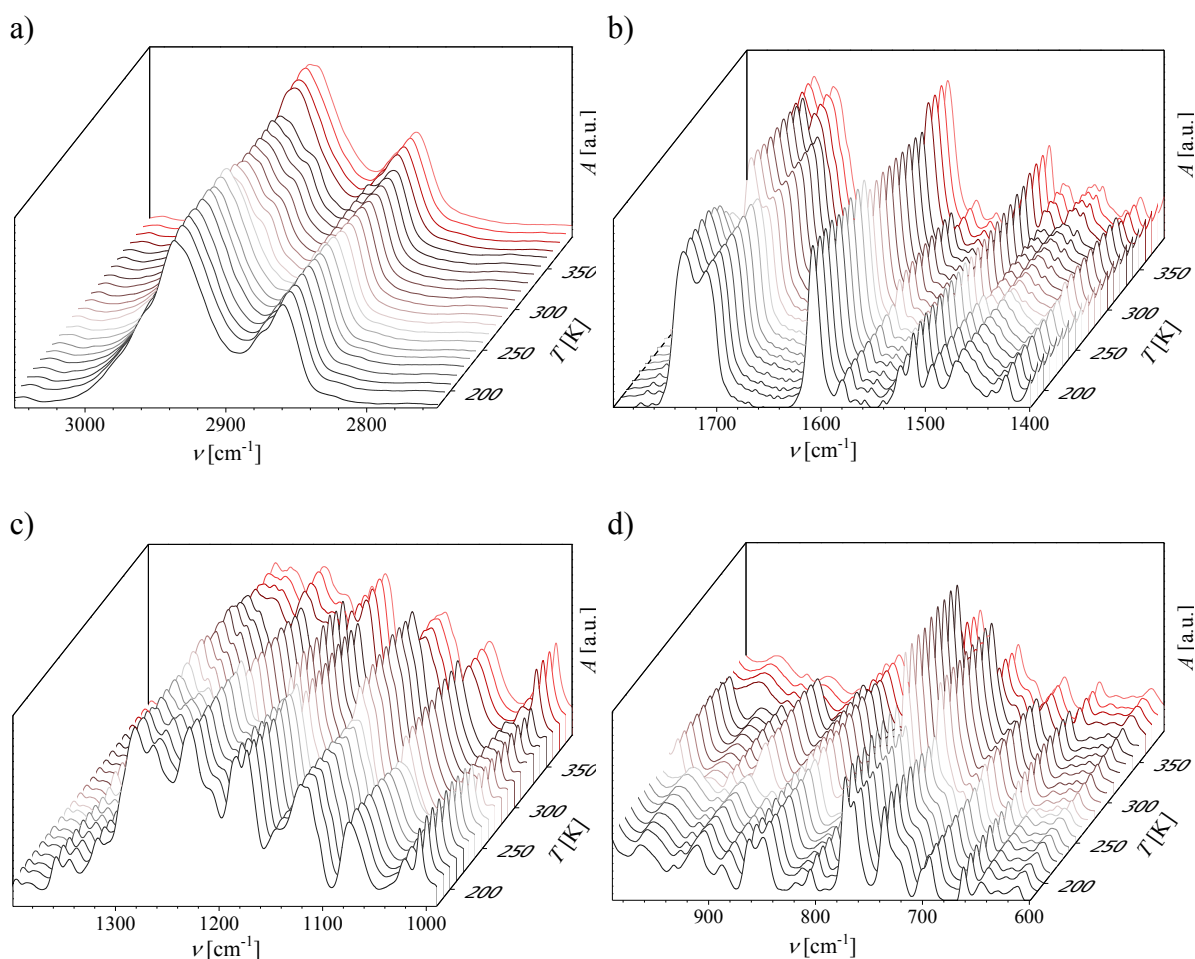
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12 **Fig. S1.** Fourier-transform infrared spectra obtained upon heating after fast cooling from 173 to 400 K in the wavenumber ν
13 regions of: a) 3050-2750 cm^{-1}; b) 1800-1400 cm^{-1}, c) 1400-1000 cm^{-1}, d) 1000-600 cm^{-1}.

Fig. S2. Assignment of vibration modes observed on FTIR spectra for 3F7HPhH7.

ν [cm^{-1}]	Assignment
3107	$\nu_{Ph}(C–H)_s$
3038	$\nu_{Ph}(C–H)_{as}$
3021	$\nu(C–H)$ in C^*HCH_3
2996	$\nu(C–H)_{as}$
2988	$\nu(C–H)_s$
1777	$\nu(C=O)_{core}$
1751	$\nu(C=O)_{chiral\_c.}$
1646	$\beta_{Ph}(C–H)_s + \nu(C=O) + \omega(CH_2)$
1557	$\beta_{Ph}(C–H)_{as} + \nu(C=O) + \omega(CH_2)$
1526	$\beta_{Ph}(C–H)_{as}$
1506	$\beta_{Ph}(C–H)_{as} + \gamma(CH_2)$
1487	$\beta_{Ph}(C–H)_{as} + \gamma(CH_2)$
1486	$\gamma(CH_2)$
1455	$\beta_{Ph}(C–H)_{as} + \gamma(CH_2)$
1416	$\omega(CH_2) + \omega(CH_2) + \omega(C^*HCH_3)$
1391	$\tau(CH_2) + \omega(CH_3) + \omega(C^*HCH_3)$
1366	$\beta_{Ph}(C–H)_{as} + \omega(CH_2) + \omega(CH_3) + \omega(C^*HCH_3)$
1331	$\omega(CF_2) + \omega(CH_2)$
1329	$\beta_{Ph}(C–H)_{as} + \omega(CH_2)$
1312	$\beta_{Ph}(C–H)_{as} + \tau(CH_2)$
1282	$\nu(C–O–C)_{as} + \tau(CH_2) + \omega(CF_2) + \omega(CH_2)$
1272	$\nu(C–O–C)_{as} + \beta_{Ph}(C–H)_{as} + \tau(CH_2) + \tau(C^*HCH_3)$
1248	$\nu(C–O–C)_{as} + \tau(CH_2) + \omega(CF_2) + \omega(CH_2)$
1228	$\nu(C–F) + \beta_{Ph}(C–H)_s + \omega(CH_2)$
1163	$\nu(C–O–C)_s + \tau(CH_2) + \omega(CH_3)$
1144	$\nu(C–O–C)_s + \beta_{Ph}(C–H)_s$
1140	$\beta_{Ph}(C–H)_s + \rho(CH_3) + \omega(CF_2)$
1089	$\beta_{Ph}(C–H)_{as} + \nu(C–C–O)_s + \omega(CH_2) + \omega(CH_3)$
1012	$\beta_{Ph}(C–H)_{as} + \omega(CH_2) + \omega(CF_2)$

15   Abbreviations: as – asymmetric, s – symmetric, ν – stretching, β − bending in-plane, γ − bending out-of-plane, ρ − rocking,
16   τ − twisting, ω – wagging, Ph – in aromatic ring, core – in rigid core, chiral_c. – in chiral centre.

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