Supplementary Material for:
Hydrophilic interior between hydrophobic regions in inverse bilayer structures of cation–1,1′-binaphthalene-2,2′-dyl phosphate salts

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This supplementary material contains the annotated pictures for the hydrogen-bonding interactions found in the crystal structures of the complexes (1,1′-binaphthalene-2,2′-dyl phosphate = BNPPA–):

1 (Isonicotin-1-ium amide)-(rac-1,1′-binaphthalene-2,2′-dyl phosphate)-monohydrate, (C₆H₇N₂O)(C₂₀H₁₂PO₄)·H₂O
2 (Isonicotin-1-ium acid)-(R-1,1′-binaphthalene-2,2′-dyl phosphate), (C₆H₆NO₂)(C₂₀H₁₂PO₄)
3 (Guanidinium)-(rac-1,1′-binaphthalene-2,2′-dyl phosphate)dihydrate semimethanol, (CH₆N₃)(C₂₀H₁₂PO₄)·2H₂O·0.5CH₃OH
4 trans-[Tetraammin-di(methanol–0.75/aqua–0.25)-copper(II)]-bis(rac-1,1′-binaphthalene-2,2′-dylphosphate) dihydrate mono-methanol
5 trans-(Diaqua-tetramethanol-copper(II))-bis(rac-1,1′-binaphthalene-2,2′-dylphosphate) hydrate dimethanol
6 cis-[Diaqua-bis(ethylene diamine)-nickel(II)]-bis(rac-1,1′-binaphthalene-2,2′-dylphosphate) dihydrate dimethanol

Fig. 1 Hydrogen bonding scheme in 1 (see Table 1 in paper for details).

Scheme 1 Molecular composition of the prepared 1,1′-binaphthalene-2,2′-dyl phosphate (BNPPA) salts 1-6 with the nomenclature numbering scheme.
Fig. 2 Hydrogen bonding scheme in 2 (see Table 1 in paper for details).

Fig. 3a Hydrogen bonding scheme around the guanidinium cation in 3 (see Table 2 in paper for details).

Fig. 3b Hydrogen bonding scheme around the phosphate head group of BNPPA in 3 (see Table 2 in paper for details). Additional symmetry transformation: $1''' = -1 + x, y, z$.

Fig. 4a Hydrogen bonding scheme around the complex trans-$[\text{Cu(NH}_3)_4(\text{CH}_3\text{OH})_2]^+$ in 4 (see Table 3 in paper for details). Additional symmetry transformation: $4 = x, 1/2 - y, 1/2 + z; 4' = x, 3/2 - y, 1/2 + z$.

Fig. 4b Hydrogen bonding scheme around the phosphate head group of BNPPA in 4 (see Table 3 in paper for details). Additional symmetry transformation: $4 = x, 1/2 - y, 1/2 + z$. 
Fig. 5a Hydrogen bonding scheme around the complex trans-$[\text{Cu(H}_2\text{O)}_2(\text{CH}_3\text{OH})_4]^{2+}$ in 5 (see Table 3 in paper for details). Additional symmetry transformation: $5 = -x, -y, -z$

Fig. 5b Hydrogen bonding scheme around the phosphate head group of BNPPA in 5 (see Table 3 in paper for details). Additional symmetry transformations: $1' = x, 1+y, z; 2'' = -x, 1+y, 1/2-z$.

Fig. 6a Hydrogen bonding scheme around the complex cis-$[\text{Ni(en)}_2(\text{H}_2\text{O})_2]^{2+}$ in 6 (see Table 4 in paper for details). Additional symmetry transformation: $2' = x, 1-y, 1/2+z$.

Fig. 6b Hydrogen bonding scheme around the phosphate head group with P1 of BNPPA in 6 (see Table 4 in paper for details). Additional symmetry transformations: $1' = x, 1+y, z; 2' = x, 1-y, 1/2+z$.

Fig. 6c Hydrogen bonding scheme around the phosphate head group with P2 of BNPPA in 6 (see Table 4 in paper for details). Additional symmetry transformations: $1' = x, -1+y, z; 4'' = 1/2+x, 1/2-y, 1/2+z$. 