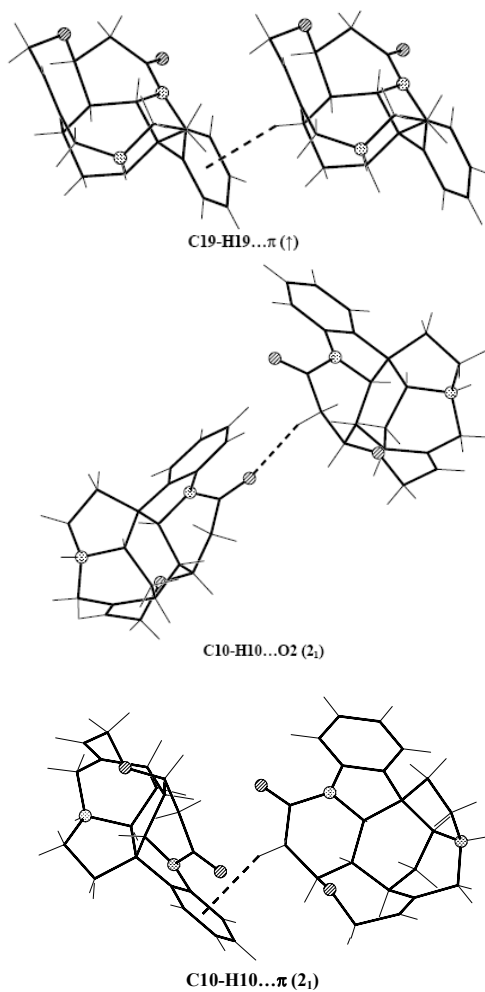


In most of crystals of strychninium salts, strychninin cations form bilayer sheet (1) or corrugated layers (2).



**Table 1s.** Geometry of C19-H19... $\pi$  ( $\uparrow$ ) hydrogen bond stabilizing bilayer sheet (1) and corrugated layer (2).

Refcode/symbol	H...A	D...A	$\angle$ DHA	OFFSET
<b>1</b>				
DEVGAM <i>i</i>	2,55	3,43	151	0,40
FEVFUH <i>ii</i>	2,65	3,55	157	0,22
FUGSAB <i>i</i>	2,70	3,57	151	0,57
FUGSAB <i>i</i>	2,71	3,58	151	0,53
JATDEN <i>i</i>	2,71	3,57	149	0,69
JATDEN <i>iii</i>	2,77	3,57	142	0,86
NUVPUP <i>ii</i>	2,65	3,51	150	0,42
STRCBH <i>i</i>	2,60	3,48	154	0,69
STRSUH <i>ii</i>	2,93	3,71	138	0,97
ZEJM UW <i>iv</i>	2,66	3,54	153	0,61
FEFMIN <i>vi</i>	2,51	3,51	154	0,76
FEFMEJ <i>iv</i>	2,59	3,50	151	0,65
FEFMOT <i>iv</i>	2,65	3,56	152	0,54
OBIFAH <i>ii</i>	2,69	3,52	145	0,56
SH <sup>+</sup> Cl <sup>-</sup> •2H <sub>2</sub> O <i>i</i> [1]	2,67	3,55	147	0,74
SH <sup>+</sup> Cl <sup>-</sup> •2H <sub>2</sub> O <i>iii</i> [1]	2,59	3,50	151	0,54
<b>2</b>				
CUXKIP <sub>v</sub>	3,01	3,94	165	1,55
FUGRUU <sub>i</sub>	2,59	3,48	153	0
YEMBEX	-	-	-	-
SH+NBDA-•2H <sub>2</sub> O <sub>i</sub>	2,58	3,57	171	0,55
SH+NBDD- •1.5H <sub>2</sub> O <sub>iii</sub>	3,02	3,97	163	1,50
SH+NBDS-•2H <sub>2</sub> O <sub>iii</sub>	2,72	3,71	170	0,80
SH+NBLD- •3.75H <sub>2</sub> O <sub>i</sub>	2,48	3,43	158	0
SH+NBLs- CH <sub>3</sub> OH•H <sub>2</sub> O <sub>i</sub>	2,56	3,51	158	0,23
SH <sup>+</sup> DNBDA <sup>-</sup> •3.5H <sub>2</sub> O <i>iii</i>	2,60	3,59	168	0,39
SH <sup>+</sup> DNBDN <sup>-</sup> •1.75H <sub>2</sub> O <i>i</i>	2,70	3,70	172	0,61
SH <sup>+</sup> DNBLN <sup>-</sup> •5H <sub>2</sub> O <i>i</i>	2,52	3,48	161	0,32
<b>OTHER</b>				
SH+NBLA- •2CH <sub>3</sub> OH <i>i</i>	2,60	3,53	154	0
SH <sup>+</sup> DNBDA <sup>-</sup> •CH <sub>3</sub> OH <i>iii</i>	2,97	3,87	148	0,64
(SH) <sub>2</sub> <sup>+</sup> DNBDLE <sup>-</sup> •3.5H <sub>2</sub> O <i>iii</i>	3,06	3,72	125	1,64
(SH) <sub>2</sub> <sup>+</sup> NBDE <sup>2-</sup> •4H <sub>2</sub> O <i>iii</i>	2,48	3,46	167	0,49
(SH) <sub>2</sub> <sup>+</sup> NBDE <sup>2-</sup> •4.6H <sub>2</sub> O <i>i</i>	2,85	3,84	171	1,31

$\uparrow$  - (i) x-1, y, z; (ii) x, y-1, z; (iii) x+1, y, z; (iv) x, y+1, z; (v) x, y, x-1

**Table 2.** Geometry of C10-H10...A (2<sub>1</sub>) hydrogen bond stabilizing bilayer sheet (1) and corrugated layer (2).

Refcode/symbol	H...A	D...A	∠DHA	OFFSET
<b>C10-H10...O2 (2<sub>1</sub>)</b>				
<b>hydrogen bond in 1</b>				
FEVFUH	2,37	3,23	149	
FUGSAB	2,33	3,19	148	
FUGSAB	2,42	3,24	143	
JATDEN	2,40	3,23	144	
JATDEN	2,38	3,20	143	
STRCBH	2,28	3,15	150	
STRSUH	2,50	3,30	141	
ZEJMUW	2,37	3,21	146	
FEFMIN	2,36	3,20	141	
FEFMEJ	2,36	3,20	152	
FEFMOT	2,35	3,19	142	
OBIFAH	2,44	3,21	132	
SH <sup>+</sup> Cl <sup>-</sup> •2H <sub>2</sub> O [1]	2,34	3,19	144	
SH <sup>+</sup> Cl <sup>-</sup> •2H <sub>2</sub> O [1]	2,36	3,19	141	
<b>C10-H10...π (2<sub>1</sub>)</b>				
<b>hydrogen bond in 2</b>				
SH+NBDA--2H <sub>2</sub> O	2,71	3,557	143	0
SH+NBDD--1.5H <sub>2</sub> O	2,91	3,624	131	0
SH+NBDS--2H <sub>2</sub> O	2,81	3,597	137	0
SH+NBLD--3.75H <sub>2</sub> O	2,81	3,697	148	0,58
SH+NBLs--CH <sub>3</sub> OH•H <sub>2</sub> O	2,71	3,489	136	0,57
SH <sup>+</sup> DNBDA <sup>-</sup> •3.5H <sub>2</sub> O	2,72	3,552	141	0,23
SH <sup>+</sup> DNBDN <sup>-</sup> •1.75H <sub>2</sub> O	2,81	3,664	145	0,24
SH <sup>+</sup> DNBLN <sup>-</sup> •5H <sub>2</sub> O	2,70	3,597	152	0,40

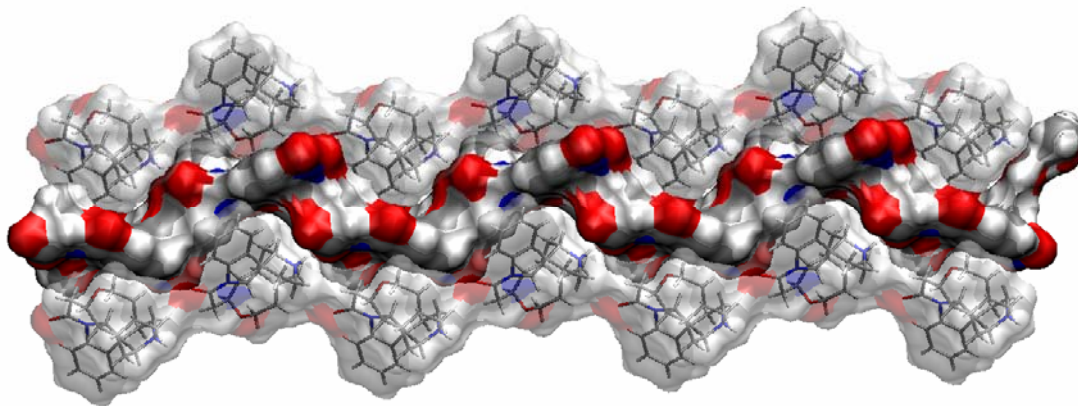
FUGSAB: two crystallographically unrelated strychninium cations are linked by the C10-H10...O2 hydrogen bond.

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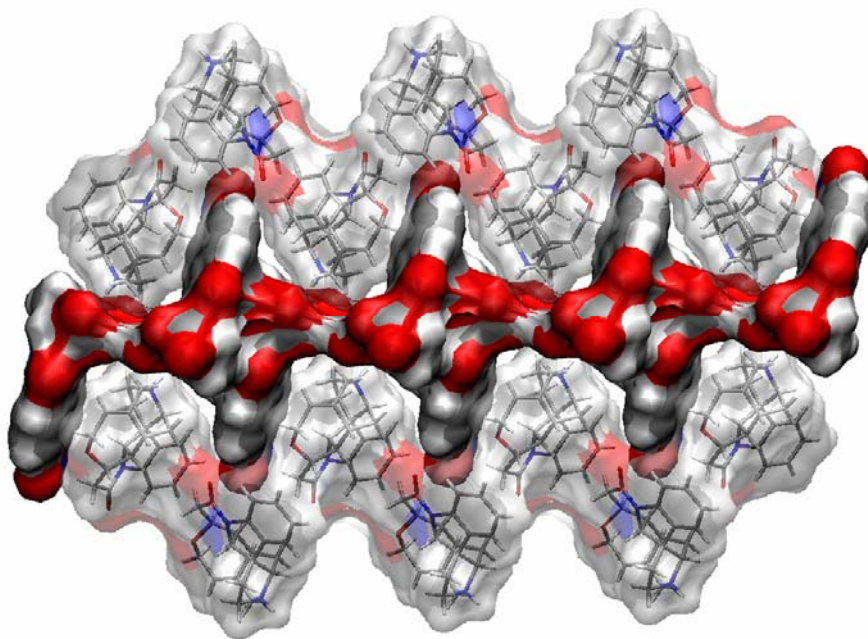
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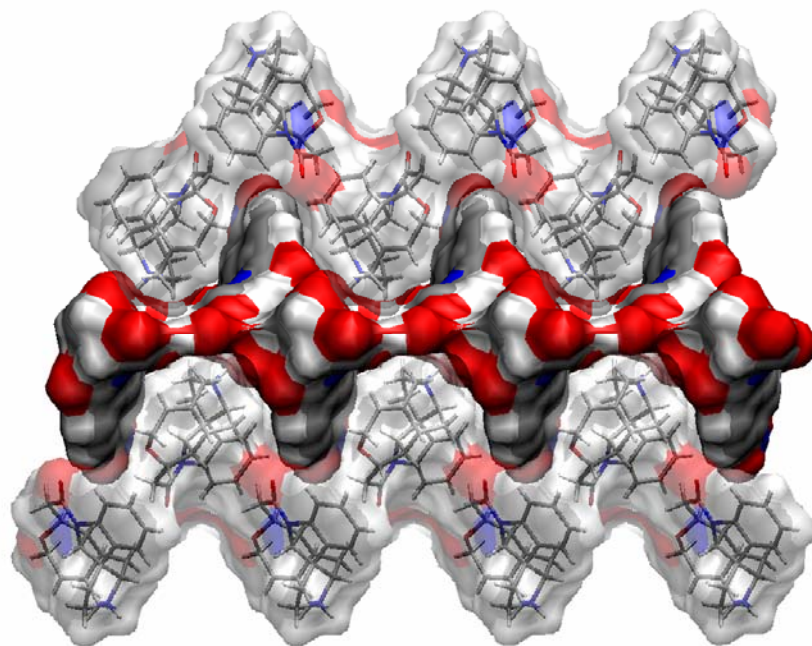
The strychninium corrugated layer, possessing deep hydrophobic holes at their surfaces (transparent), recognizes 4-nitrobenzoyl group of anions. Such hydrophobic 'lock and key' recognition causes the resulting surface to have more hydrophilic properties (opaque surface); H – white, C- silver, N – blue, O – red (Humphrey et al., 1996).



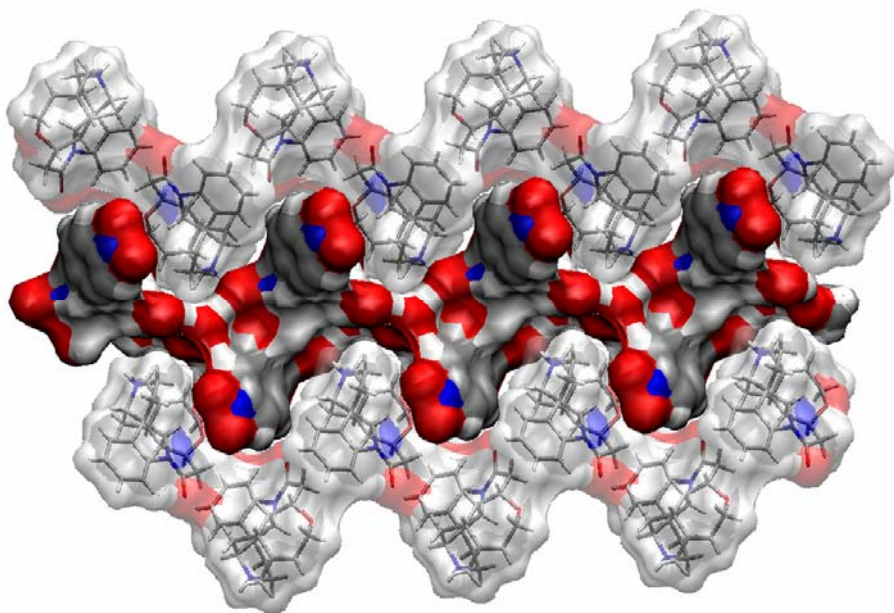
1a



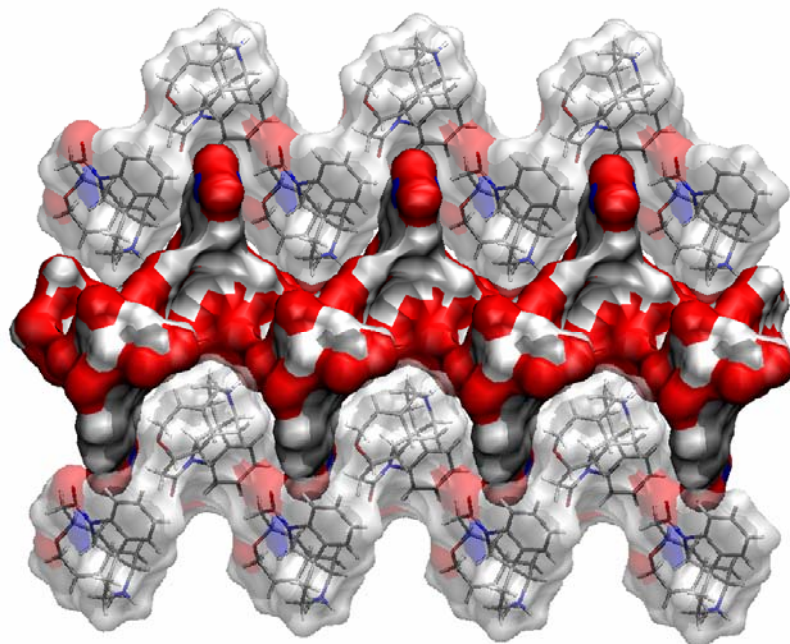
1b



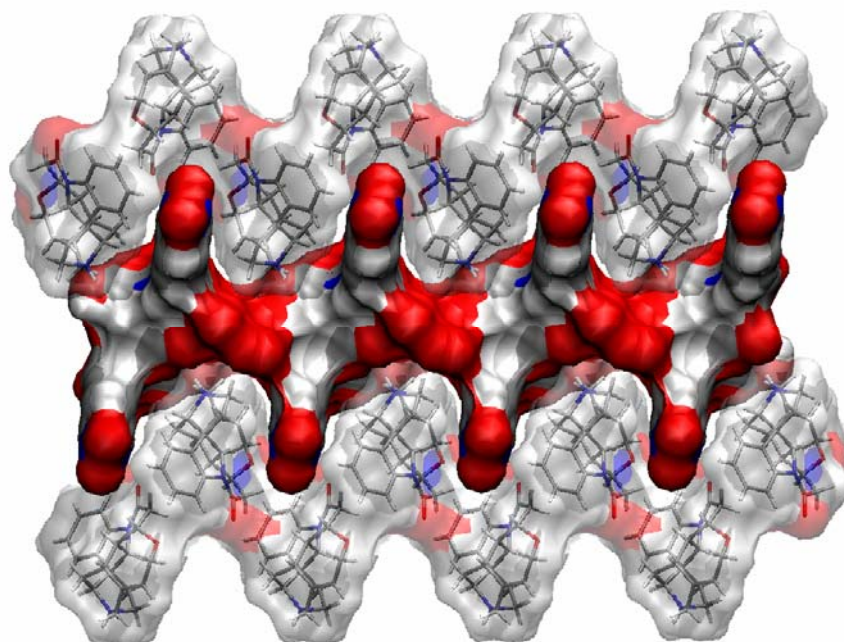
2a



2b



3a



3b