Guest-Host Systems of 1,3,5-Tristyrylbenzenes

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(E,E,E)-1,3,5-Tris(3,4,5-trimethoxystyryl)benzene (1a) forms monoclinic crystals of the space group $P2_1/c$. Incorporation of three transoid diacetyl guest molecules between the three arms leads to triclinic crystals of the space group P1. The styryl groups, originally present in a non-symmetrical conformation, are simultaneously transformed to a C_3 arrangement. (E,E,E)-1,3,5-Tris-(3,4,5-tripropoxystyryl)benzene (1b) forms monoclinic crystals of the space group $P2_1/c$. The C_3 arrangement of the styryl groups is present in the first, the unsymmetrical arrangement in the second modification. Incorporation of two acetone guests in the largest and the middle-sized angle space between the styryl arms in the unsymmetrical arrangement, leads to monoclinic crystals of the space group $P2_1/n$. The third (smallest) angle space is filled with a propoxy chain of the neighboring molecule. The pure host crystals show significant deviations from planarity which are strongly reduced by the incorporation of the guest molecules.

Key words: Guest-Host Crystals, Triplet Sensitizer