

Supporting Information

Table S1 Assignments of the main infrared absorption bands for the silylated precursors CE-15-Si, CE-16-Si, CE-18-Si, and the corresponding binary and ternary hybrids.

Compounds	$\nu(\text{OH})$	$\nu(\text{CH}_2)$	$\nu(\text{Ar})$	$\nu(\text{Ar-O-CH}_2)$	$\nu(\text{CONH})$	$\nu(\text{Si-C})$	$\nu(\text{Si-O})$
CE-15-Si	3316	2981,2930,2873	1601,1485	1240	1864	1192	1104,1080
CE-16-Si	3327	2976,2925,2874	1600,1483	1242	1866	1194	1108,1081
CE-18-Si	3397	2975,2922,2878	1600,1487	1241	1864	1192	1103,1083
CE-15-Si -Eu	3405	2974,2884	1597,1481	1235	1842	1197	1102-1097
CE-15-Si -Tb	3408	2970,22889	1598,1482	1230	1845	1199	1102-1097
CE-16-Si -Eu	3392	2981,2882	1601,1483	1232	1838	1194	1102-1097
CE-16-Si -Tb	3410	2971,2879	1600,1485	1234	1845	1195	1102-1097
CE-18-Si -Eu	3393	2981,2879	1602,1484	1233	1842	1195	1102-1097
CE-18-Si -Tb	3399	2986,2883	1600,1482	1234	1839	1198	1102-1097
CE-15-Si -Phen-Eu	3401	2982,2874	1599,1487	1234	1840	1200	1102-1097
CE-15-Si -Phen-Tb	3384	2985,2881	1598,1484	1232	1841	1196	1102-1097
CE-16-Si -Phen-Eu	3407	2981,2881	1601,1489	1234	1845	1192	1102-1097
CE-16-Si -Phen-Tb	3410	2978,2880	1598,1490	1232	1845	1193	1102-1097
CE-18-Si -Phen-Eu	3406	2987,2871	1601,1484	1235	1843	1197	1102-1097
CE-18-Si -Phen-Tb	3396	2984,2876	1600,1488	1232	1847	1197	1102-1097

Figure S1 Scheme of the synthesis process of the aza-crown ethers CE-15, CE-16, CE-18, and the silylated precursors CE-15-Si, CE-16-Si, CE-18-Si.

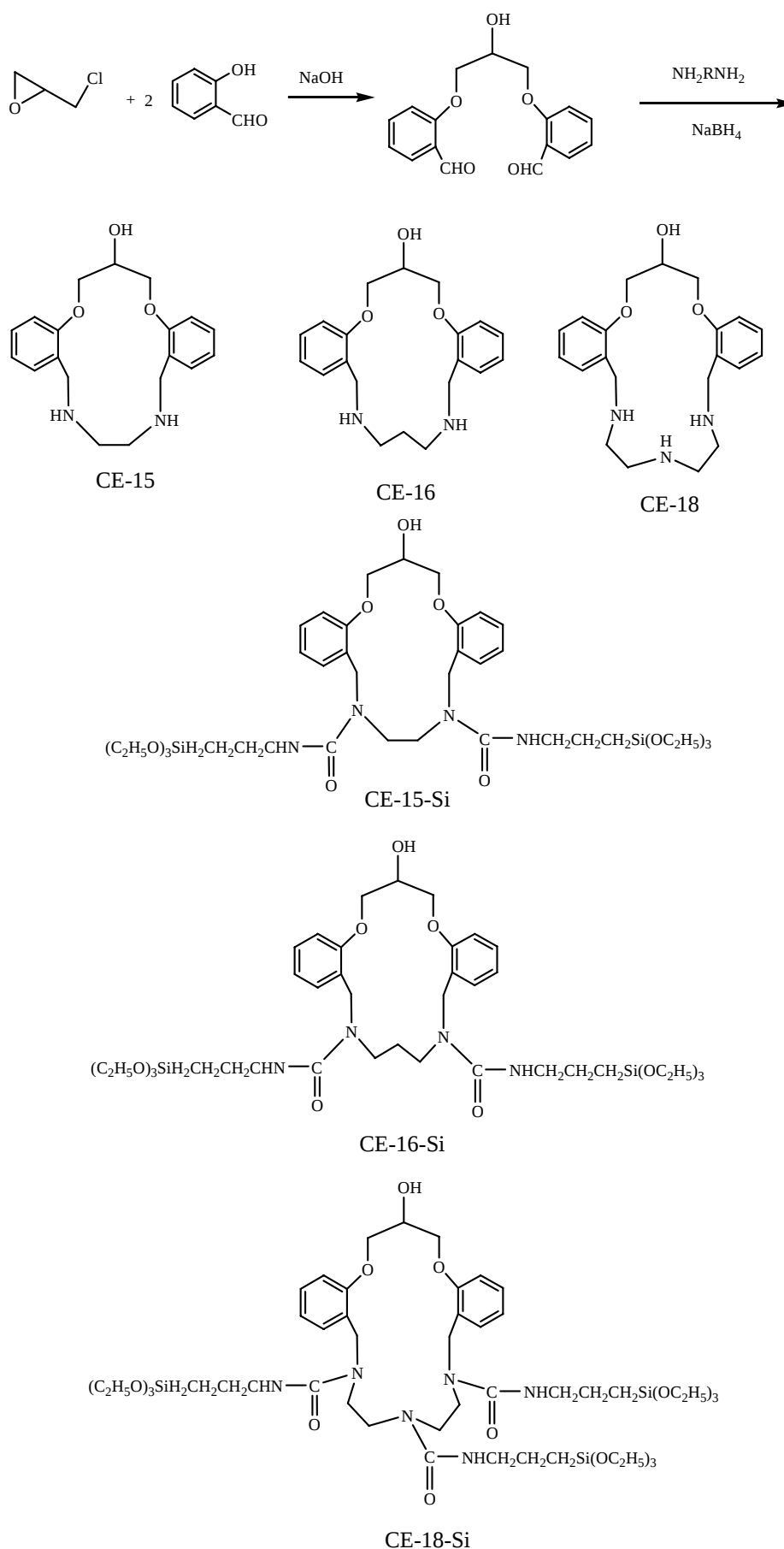


Figure S2 The selected excitation spectra of the europium hybrid materials CE-18-Si-Eu and CE-18-Si-Phen-Eu.

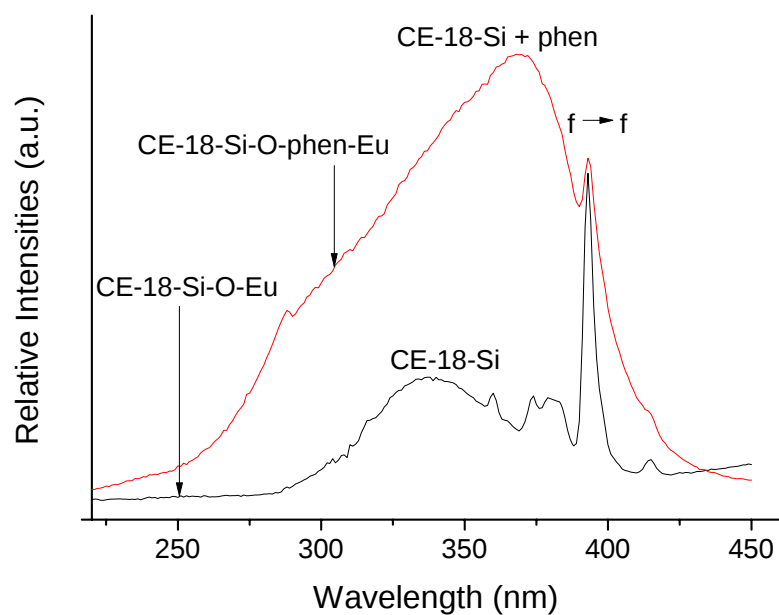


Figure S3 The selected excitation spectra of the terbium hybrid materials CE-18-Si-Tb and CE-18-Si-Phen-Tb.

