Electronic Supplementary Material (ESI) for Nanoscale.

Versatile cyclodextrin nanotube synthesis with functional anchors for efficiency ion channel formation: design, characterization and ion conductance

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Supporting Information

Table of content :

Experimental mass	Theoretical mass	❒m (ppm)	End chains	Number of γ-CD	Number of sulfate
1327.02	1327.05	23	Py(H)/Py(H)	0	0
1424.12	1424.14	14	Py(H)/Py(S)	0	0
1521.24	1521.22	13	Py(S)/Py(S)	0	0
1569.36	1569.39	19	Py(Py)/Py(H)	0	0
1666.43	1666.46	18	Py(Py)/ Py(S)	0	0
1811.70	1811.72	11	Py(Py)/ Py(Py)	0	0
2624.15	2624.18	11	Py(H)/Py(H)	1	0
2721.23	2721.27	15	Py(H)/Py(S)	1	0
2726.19	2726.21	7	Py(H)/Py(H)	1	1
2818.30	2818.34	14	Py(S)/Py(S)	1	0
2828.20	2828.25	18	Py(H)/Py(H)	1	2
2866.50	2866.52	7	Py(Py)/Py(H)	1	0
2963.57	2963.59	7	Py(Py)/ Py(S)	1	0
3108.80	3108.84	13	Py(Py)/ Py(Py)	1	0
3921.25	3921.30	13	Py(H)/Py(H)	2	0
4018.30	4018.39	22	Py(H)/Py(S)	2	0
4023.27	4023.34	17	Py(H)/Py(H)	2	1
4120.36	4120.43	17	Py(H)/Py(S)	2	1
4125.30	4125.38	19	Py(H)/Py(H)	2	2
4222.42	4222.47	12	Py(H)/Py(S)	2	2
4227.34	4227.42	19	Py(H)/Py(H)	2	3
4367.65	4367.72	16	Py(Py)/Py(H)	2	2
4464.63	4464.71	18	Py(Py)/ Py(S)	2	2
4468.70	4468.76	13	Py(Py)/Py(H)	2	3
4609.88	4609.96	17	Py(Py)/ Py(Py)	2	2
5524.32	5524.43	20	Py(H)/Py(H)	3	3
5621.41	5621.52	20	Py(H)/Py(S)	3	3
5766.69	5766.77	14	Py(Py)/Py(H)	3	3
5863.87	5863.95	14	Py(Py)/ Py(S)	3	3
5965.84	5965.99	25	Py(Py)/ Py(S)	3	4
6008.94	6009.09	25	Py(Py)/ Py(Py)	3	3
7020.50	7020.64	20	Py(Py)/ Py(Py)	4	4

Table S1. Recapitulative of some identified ions during positive MALDI-TOF analysis in linear mode of PR. Putative assignment was achieved considering a polymeric chain owing 10 isobutylene units and present under sodiated adducts

Experimental mass	Theoretical mass	❒m (ppm)	Number of epichlorohydrin bridge	Number of γ-CD	Number of sulfate
3560.20	3560.24	11	14	2	2
5463.89	5463.98	16	23	3	3
7255.46	7255.59	18	30	4	4
8710.61	8710.82	24	31	5	5

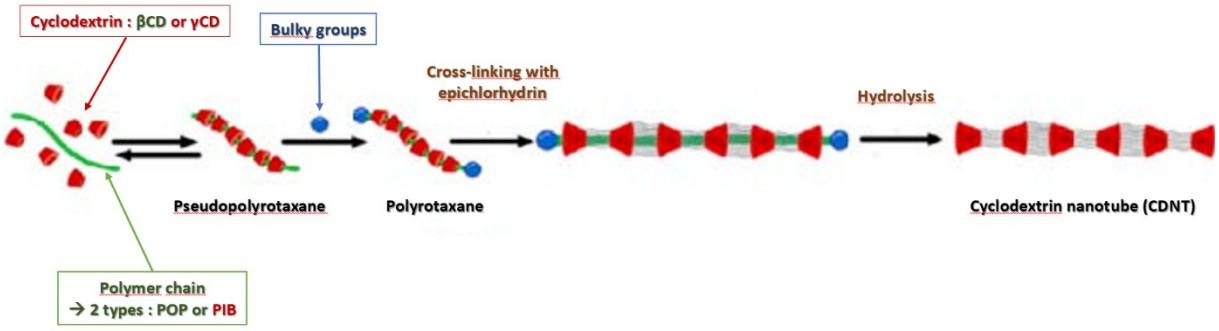
Table S2. Recapitulative of some identified ions during positive MALDI-TOF analysis in linear mode of γ-CDNT2300. Putative assignment was achieved considering ions under sodiated adduct**.**

Experimental mass	Theoretical mass	❒m (ppm)	Number of epichlorohydrin bridge	Number of β-CD	Number of sulfate
3123.78	3123.83	16	12	2	2
5033.51	5033.62	22	24	3	3
6943.23	6943.41	26	36	4	4

Table S3. Recapitulative of some identified ions during positive MALDI-TOF analysis in linear mode of γ -CDNT2000. Putative assignment was achieved considering ions under sodiated adduct.

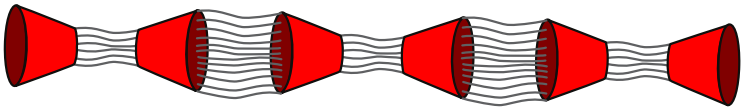
Experimental mass	Theoretical mass	❒m (ppm)	Number of epichlorohydrin bridge	Number of γ-CD	Number of sulfate
3840.52	3840.55	8	19	2	2
5688.17	5688.23	11	27	3	3
7423.64	7423.78	19	33	4	4
9215.13	9215.39	28	40	5	5
10838.45	10838.82	34	44	6	6

Table S4. Recapitulative of some identified ions during positive MALDI-TOF analysis in linear mode of γ-CDNT1000. Putative assignment was achieved considering ions under sodiated adduct.

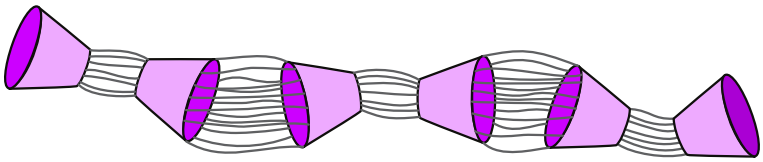


Scheme S1 : Preparation scheme of the CDNTs

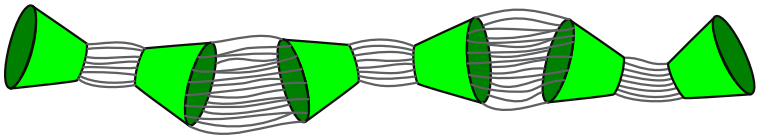
α-CDNT



β-CDNT



γ-CDNT



Scheme S2: Structure of cyclodextrine based nanotubes

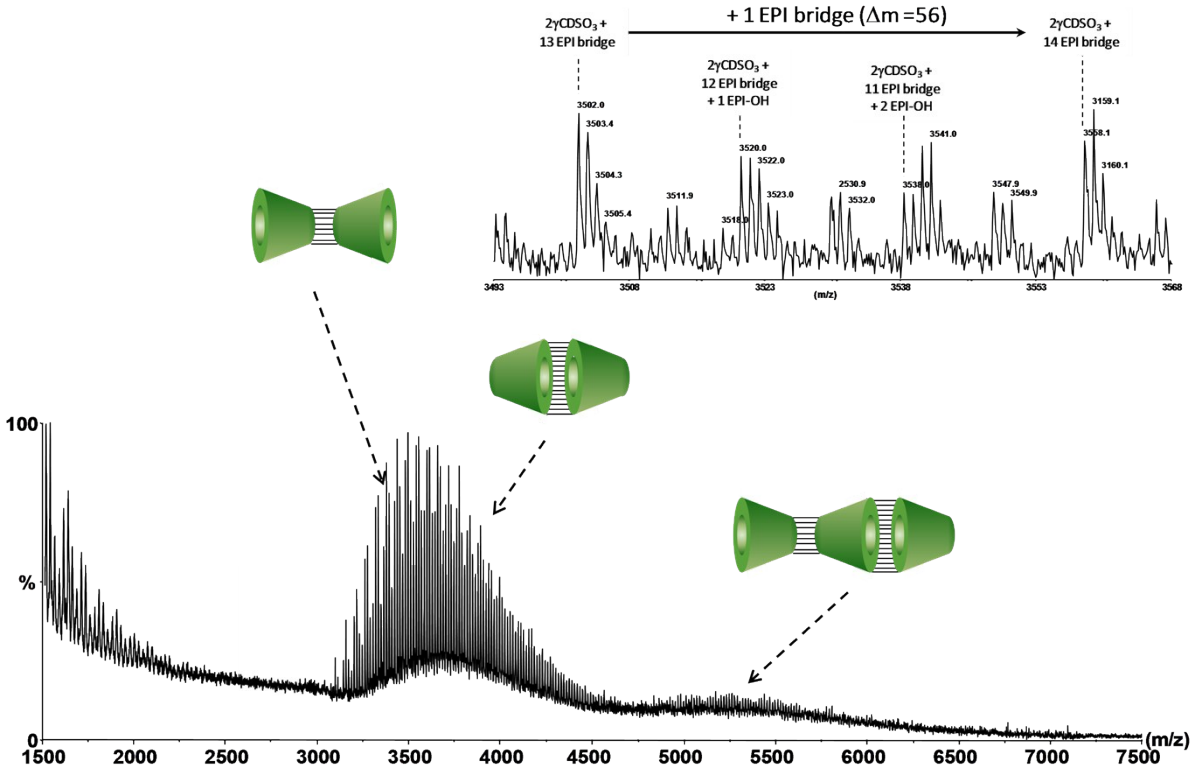


Figure S1. Negative MALDI-TOF mass spectrum in reflector mode obtained with trans-3-indoleacrylic acid (IAA) of the γCDNT2300

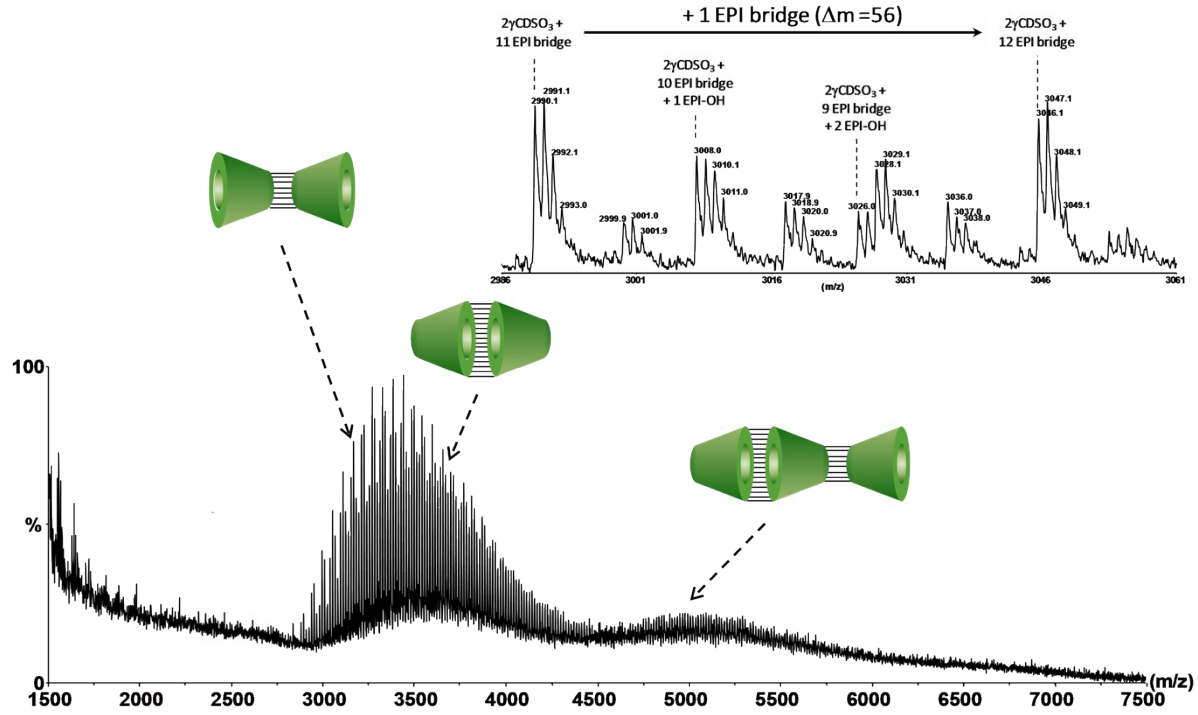


Figure S2. Negative MALDI-TOF mass spectrum in reflector mode obtained with trans-3-indoleacrylic acid (IAA) of the γCDNT1000.

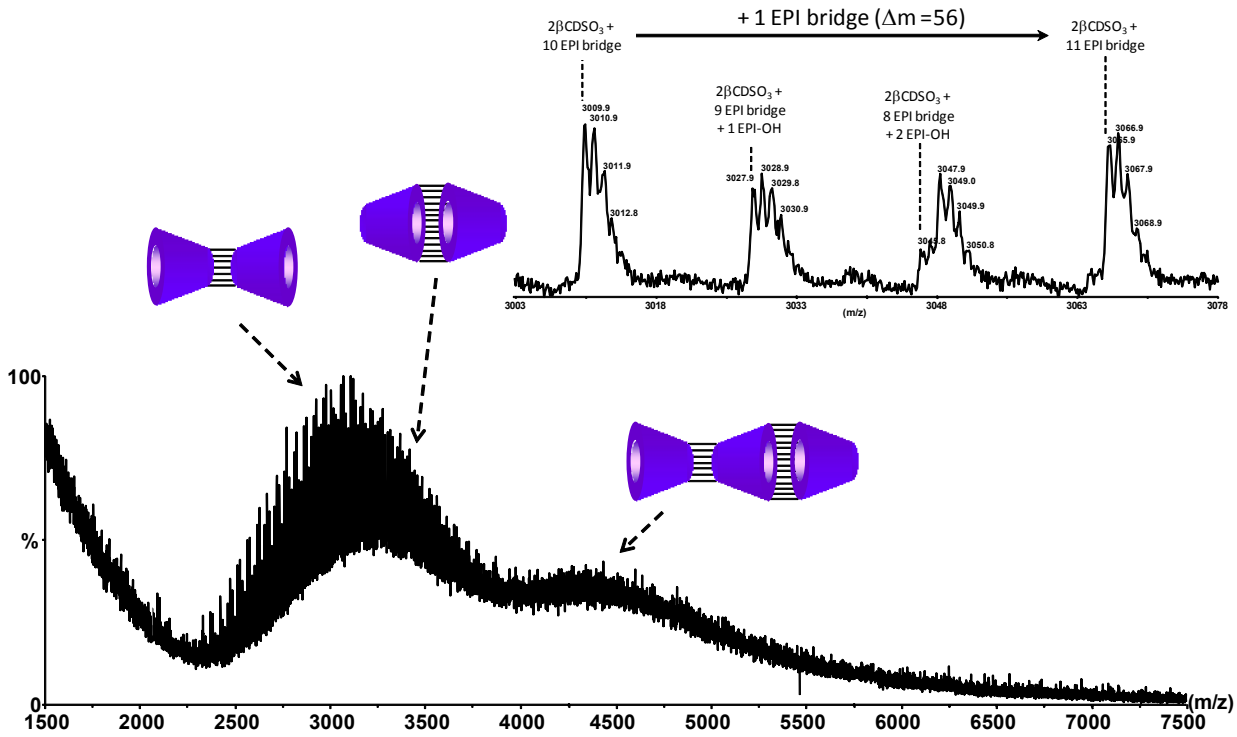


Figure S3. Negative MALDI-TOF mass spectrum in reflector mode obtained with trans-3-indoleacrylic acid (IAA) of the βCDNT2000.

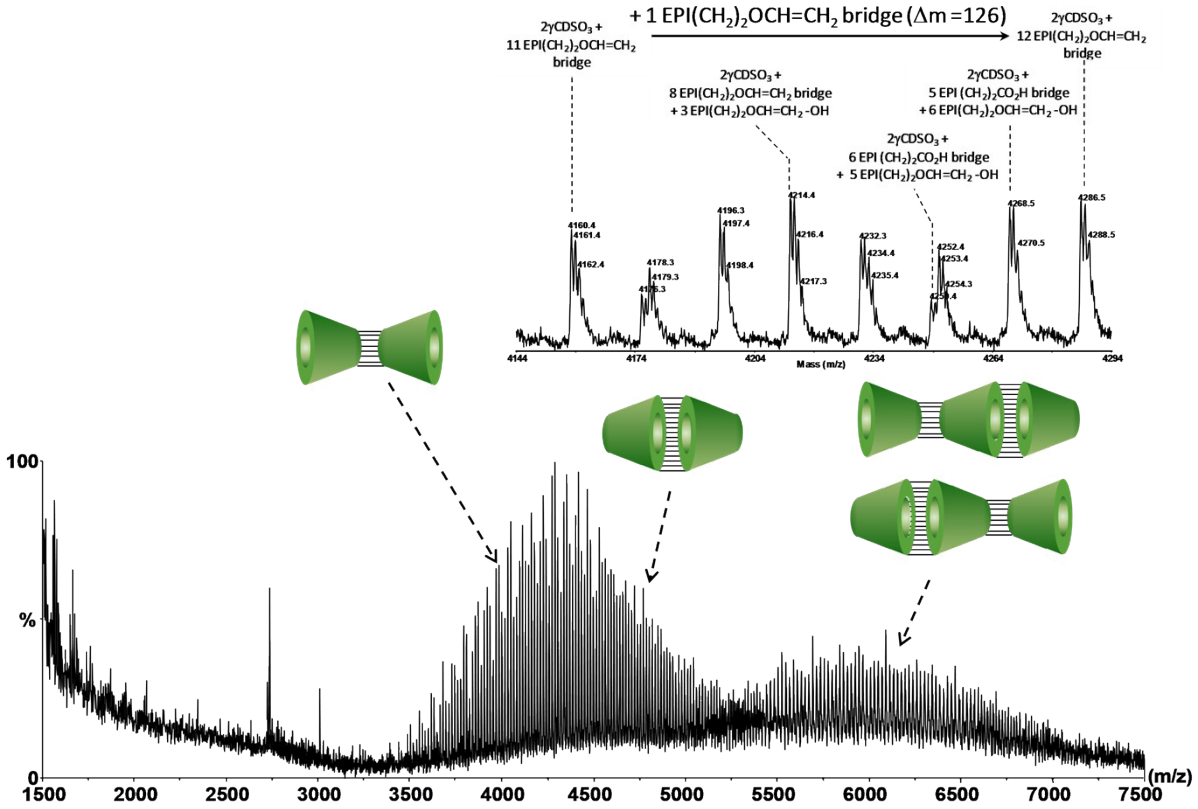


Figure S4. Negative MALDI-TOF mass spectrum in reflector mode obtained with trans-3-indoleacrylic acid (IAA) of the γCDNT2300+vinyle.