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Retraction: Supramolecular organic nanotubes: how to utilize the inner nanospace and the outer space

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Retraction of 'Supramolecular organic nanotubes: how to utilize the inner nanospace and the outer space' by Naohiro Kameta *et al.*, *Soft Matter*, 2011, **7**, 4539–4561, <https://doi.org/10.1039/C0SM01559H>.

We the named authors hereby wholly retract this *Soft Matter* article due to the fact that the paper has the wrong electron microscopy images in Fig. 3 on the part of the first author, who is affiliated with the National Institute of Advanced Industrial Science and Technology (AIST).

Fig. 3a, b and c had incorrect scale bar lengths, which were approximately 1.27, 2.48 and 0.48 times longer than the actual lengths, respectively. The caption of Fig. 3 also contained the following error: "SEM images..." is correctly "Scanning TEM images...".

The authors respectfully retract this paper, because these events were determined to amount to scientific misconduct and the retraction of this paper was recommended by AIST. AIST verified that the first author was responsible for the misconducts and no other co-authors were engaged in them.

In contrast, we calculated the inner diameter (i.d.) and the thickness of the nanotubes in Fig. 3 using the correct scale bar. Therefore, there is no error in the following sentence regarding the inner diameter and the thickness of the nanotubes: (Page 4541, right column, line 31) "Furthermore, our own group revealed that protonation of the amine head group of 2a alters the inner diameter of the resultant nanotubes from 80 to 20 nm.³⁵ On the basis of molecular packing analysis, the diameter change should be attributed to a change in nanotube formation mechanisms from packing-directed self-assembly to chiral self-assembly. Under basic conditions, the amphiphiles slightly tilted (15°) within the monolayer membrane (MLM), causing the lipids to pack into a fan-spray fashion (packing-directed self-assembly) to form nanotubes with an 80 nm inner diameter (Fig. 3a). However, under acidic conditions the protonation of the amphiphiles caused a large molecular tilt (33°) owing to intercalation of the counter ions (Fig. 3b). Furthermore, the large tilt induced a twisting in the molecular packing (chiral self-assembly) to form helical ribbons, which gradually transformed into tubular structures with 20 nm inner diameters after 10 days (Fig. 3c)."

Signed: Hiroyuki Minamikawa, Mitsutoshi Masuda, Naohiro Kameta

Date: 3rd October 2024

Retraction endorsed by Maria Southall, Executive Editor, *Soft Matter*

