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RETRACTION

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Retraction: Stacking of nanorings to generate nanotubes for acceleration of protein refolding

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Retraction of 'Stacking of nanorings to generate nanotubes for acceleration of protein refolding' by N. Kameta and D. Wing, *Nanoscale*, 2021, **13**, 1629–1638, https://doi.org/10.1039/D0NR07660K.

We the named authors hereby wholly retract this *Nanoscale* article due to the fact that the paper has wrong electron microscopy images in Fig. 2 and Fig. S5 on the part of the first author, who is affiliated with the National Institute of Advanced Industrial Science and Technology (AIST).

Fig. 2a and c should have displayed TEM images of the PEG-NRs (PEGylated nanorings composed of Azo-dGly and Azo-dGly-PEG2) and the PEG-L-NTs (PEGylated long nanotubes formed by end-to-end joining of the PEG-S-NTs which are PEGylated short nanotubes formed by stacking of the PEG-NRs), respectively. However, the first author posted TEM images of non-PEGylated nanorings composed of Azo-dGly and irrelevant nanotubes that were developed by the authors in other studies, for Fig. 2a and c, respectively. The incorrect image in Fig. 2a is also found to include an error with the scale bar, which was approximately 0.3 times shorter than the actual. Fig. 2b also had an incorrect scale bar, which was approximately 0.4 times shorter than the actual.

Fig. S5a should have displayed the TEM image of the non-PEGylated nanorings in the presence of the stacking inhibitor, dGly-PEG2. However, the first author posted the TEM image of the non-PEGylated nanorings in the absence of dGly-PEG2. Fig. S5b and S5c should have displayed TEM images of non-PEGylated short nanotubes formed by stacking of the non-PEGylated nanorings under low concentration of dGly-PEG2 and the PEG-S-NTs with heat treatment in the presence of dGly-PEG2, respectively. However, the first author posted TEM images of the PEG-S-NTs without heat treatment in the absence of dGly-PEG2 in Fig. S5b and S5c. The incorrect images in Fig. S5a, S5b and S5c are also found to include errors with the scale bars, which were approximately 0.4 times shorter than the actual.

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 misconduct and the co-author was not involved in it.

Signed: N. Kameta and W. Ding, 4th October 2024.

Retraction endorsed by Heather Montgomery, Managing Editor, *Nanoscale*.

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