Microplate-based detection of lytic polysaccharide monooxygenase activity by fluorescence-labeling of insoluble oxidized products

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**Supplemental figure legend**

**Figure S1. Liquid handler incorporated with a vacuum system and a plate reader.**
(1) Pipeting system, (2) microplate handler, (3) microplate vacuum system, (4) microplate reader, and (5) controller.

**Figure S2: Gel densitometry for mass determination.** Different µg of bovine serum albumin and µL of PcLPMO9D were loaded together in SDS-PAGE gels for determining the concentration of PcLPMO9D, which was predicted to have a molecular mass of 23 kDa.

**Figure S3: Fluorescence-labeling of different cellulose samples.** Bacterial microcrystalline cellulose (BMCC), regenerated amorphous cellulose (RAC), nanocrystalline cellulose (NCC), Avicel and filter paper were labeled with ANDA before fluorescence measurement.

**Figure S4: Fluorescence standard curve.** The fluorescence intensity of ANDA (0-625 nM) in the presence of 0.2 % BMCC at the excitation wavelength of 310 nm and the emission wavelength of 450 nm.

**Figure S5: Fluorescence intensity of BMCC and ANDA.** Emission scan (320-850 nm) was conducted at the excitation wavelength of 310 nm. The zoomed-in insert highlighted the presence of the 450-nm peak in ANDA (dash line) but not in BMCC (solid line).

**Figure S6: XPS survey spectrum of PcLPMO9D-treated BMCC.** Arrow indicates the position of a nitrogen signal if it presents in the sample.
Figure S1
Figure S2

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Figure S3

Fluorescence intensity

BMCC  RAC  NCC  Avicel  Filter paper

ANDA-labeled cellulose
Figure S4

\[ y = 21.54x + 566.3 \]

\[ R^2 = 0.9894 \]
Figure S5
Figure S6