**Supplementary data for the article:**

**Physicochemical functionality of chimeric isomaltomegalosaccharides with α-(1→4)-glucosidic segments of various lengths**

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**Table S1.** Moisture content of IMS

|  |  |
| --- | --- |
| IMS | Moisture content (%)\* |
| IMS-13/3 | 4.3 |
| IMS-13/6 | 5.4 |
| IMS-15/9 | 4.3 |

\* Evaluated from moisture loss at 120 °C by TGA analysis.



**Fig. S1.** Preparation of G12 from short amylose (DP = 16.5–19.5). **A**, Preparation procedure of G12. **B**, Size distribution of maltodextrin fraction in each step analyzed by gel permeation HPLC.

**Fig. S2.** 1H-NMR spectra of glucosaccharides. **A and B**, G12 and short amylose (DP = 16.5–19.5); **C and D**, IMS-13/3, IMS-13/6, IMS-15/9, and IMSs prepared from G4; **A and C**, spectra covering anomeric proton area. Signal of (2H5)dimethyl sulfoxide was calibrated at *δ* 4.3706 ppm.



**Fig. S3.** Digestion of IMSs by dextran glucosidase. According to our previously reported method (Lang et al., 2022), both enzymatic digestion and separation of products were conducted. \*, internal standard (*myo*-inositol).



**Fig. S4.** Benesi-Hildebrand double-reciprocal plots for the determination of *K*c values of IMSs. **A**, IMS-13/3: *I* value, 39.0–236; *I*0 value, 14.7. **B**, IMS-13/6: *I* value, 72.4–430; *I*0 value, 14.4. **C**, IMS-15/9: *I* value, 97.4–506; *I*0 value, 14.9. Concentration of IMS used, 1.0–10 mM.