

1 **ELECTRONIC SUPPLEMENTARY INFORMATION**

2 **Microparticles Formulated from a Family of Novel Silylated Polysaccharides**

3 **Demonstrate Inherent Immunostimulatory Properties and Tunable Hydrolytic**

4 **Degradability**

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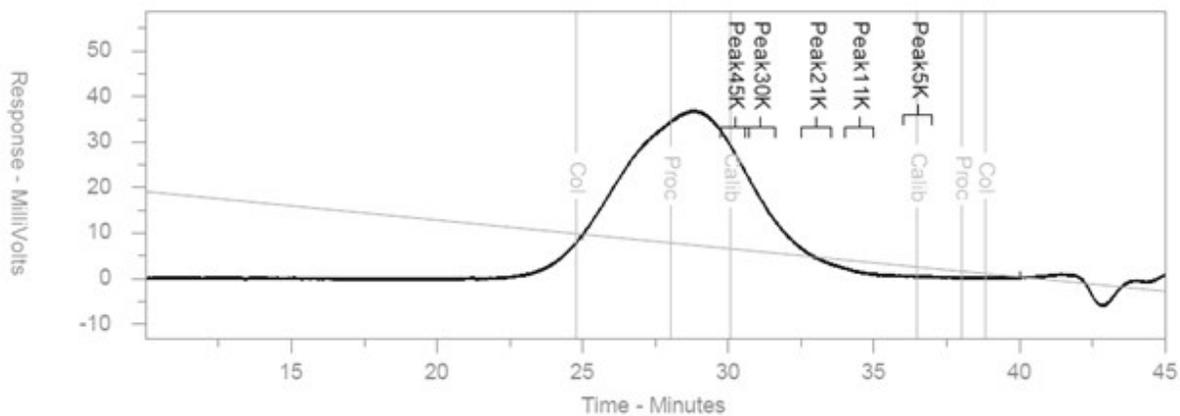
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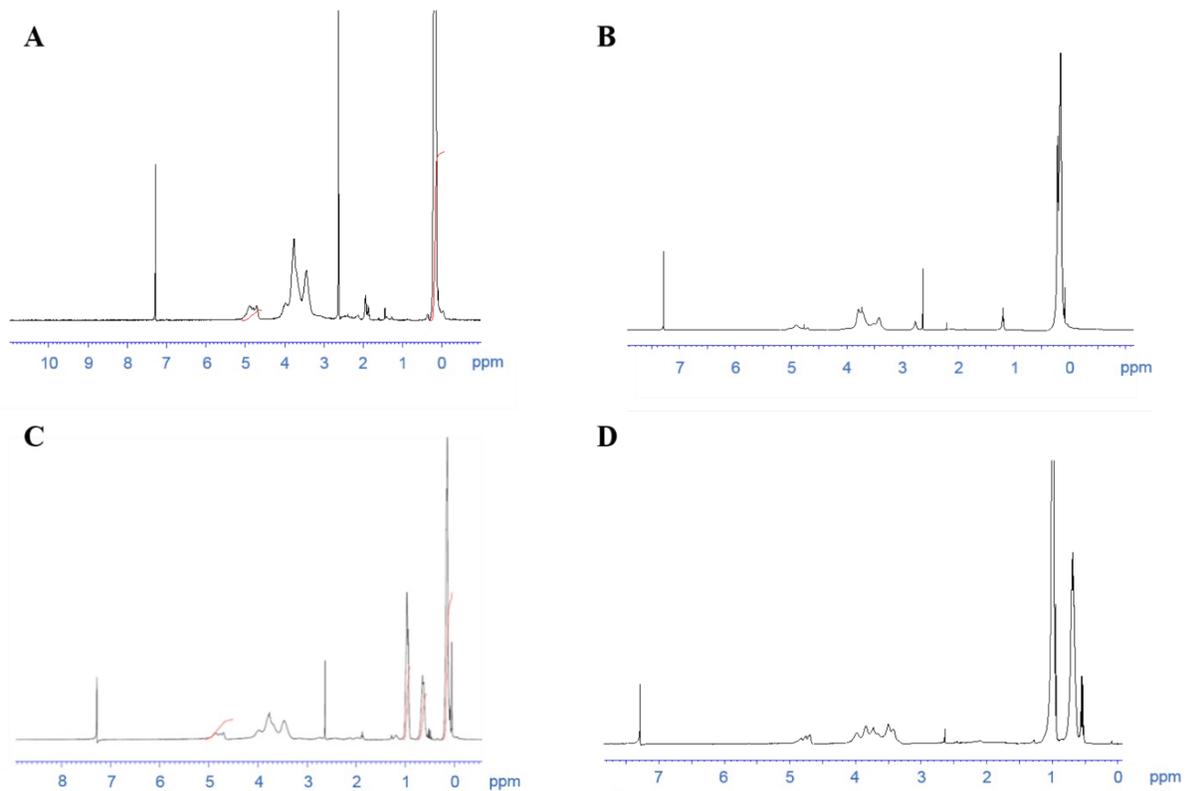
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2 Figure S1. Size exclusion chromatogram of trimethylsilyl dextran with 98% extent of silylation,
3 TMS-DEX(98%), demonstrates no degradation of the 71 kDa dextran starting material.

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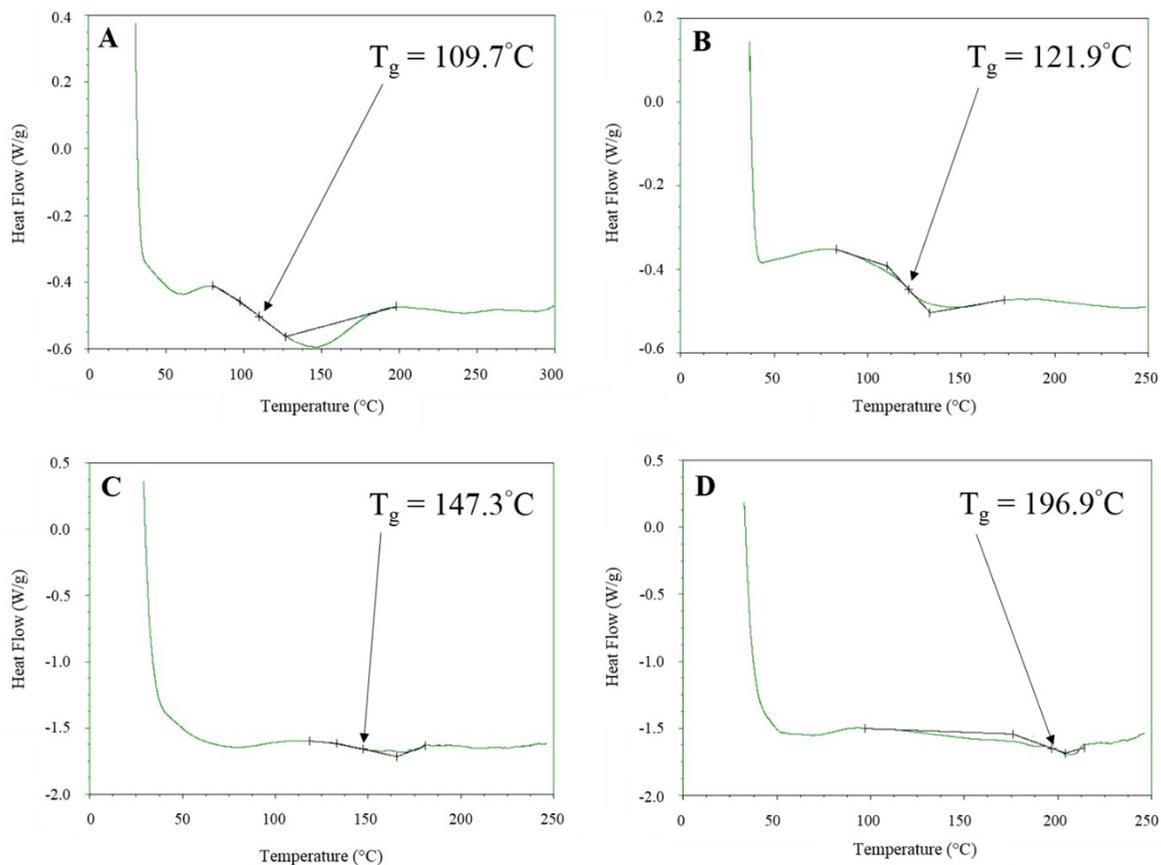
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2 Figure S2. ^1H nuclear magnetic resonance spectra of (A) TMS-DEX(59%), (B) TMS-DEX(98%),

3 (C) EDMS-DEX(40%), and (D) TES-DEX(57%) polymers dissolved in deuterated chloroform.

4 Refer to Table 2 for definitions of polymer abbreviations.

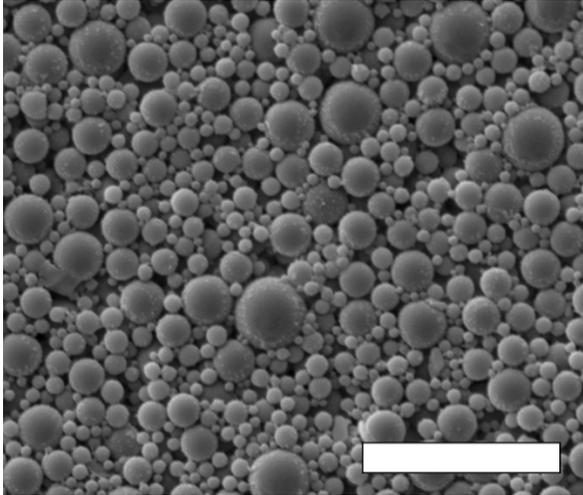
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2 Figure S3. Differential scanning calorimetric data and glass transition temperatures (T_g) of (A)
 3 TMS-DEX(59%), (B) TMS-DEX(98%), (C) EDMS-DEX(40%), and (D) TES-DEX(57%). Refer to
 4 Table 2 for definitions of polymer abbreviations.

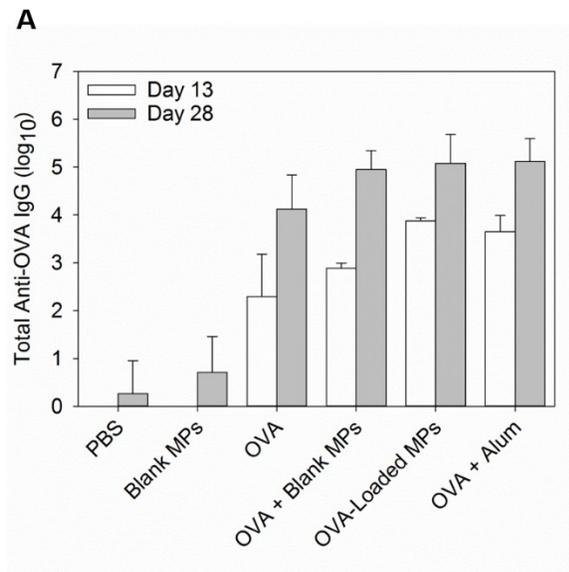
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2 Figure S4. Representative scanning electron micrograph of homogenized microparticles. Scale
3 bar = 5 μm .

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	OVA + Blank MPs	OVA-Loaded MPs	OVA + Alum
OVA	***	****	****
OVA + Blank MPs	N/A	****	****
OVA-Loaded MPs	N/A	N/A	n.s.

	OVA + Blank MPs	OVA-Loaded MPs	OVA + Alum
OVA	***	****	****
OVA + Blank MPs	N/A	n.s.	n.s.
OVA-Loaded MPs	N/A	N/A	n.s.

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2 Figure S5. (A) Total anti-ovalbumin (anti-OVA) IgG antibody titers (ng/mL) in mouse sera
 3 collected at Day 13 and 28. Data are presented as log₁₀-transformed with the mean + 95%
 4 confidence intervals (n = 4). Statistical comparisons are presented between all OVA groups for
 5 (B) Day 13 and (C) Day 28. Statistical indicators are as follows: *** p < 0.001, **** p < 0.0001,
 6 and n.s. = not significant. All OVA groups also are statistically greater than PBS and Blank MPs.
 7 N/A = not applicable. Refer to Table 1 for definitions of immunization group abbreviations. The
 8 PBS, OVA, and OVA + Alum data were previously published in reference 43.

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1 Table S1. Anti-ovalbumin (Anti-OVA) IgG1 and IgG2a antibody titers (ng/mL) in mouse sera

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	PBS	Blank MPs	OVA	OVA + Blank MPs	OVA-Loaded MPs	OVA + Alum
IgG1	N/D	N/D	4.5 ± 0.2 #	5.0 ± 0.2 #†	5.4 ± 0.2 #†	5.7 ± 0.1 #,†,‡
IgG2a*	N/D	N/D	1.6	N/D	2.7, 1.9, & 1.7	N/D

collected at Day 42.

8 N/D = titers not detected

9 #All mice (n = 4) generated titers. Data are displayed as mean ± standard error mean and
10 presented after log₁₀-transformation.

11 †Statistically significant compared to OVA (p < 0.01 for OVA + Blank MPs;
12 p < 0.0001 for OVA-Loaded MPs and OVA + Alum)

13 ‡Statistically significant compared to OVA + Blank MPs (p < 0.001)

14 *Listed titers are individual replicates and are presented after log₁₀-transformation.

15 Refer to Table 1 for definitions of immunization group abbreviations.