

Lactide oligomers modified with linear poly(ethyleneimine) for antibacterial coatings

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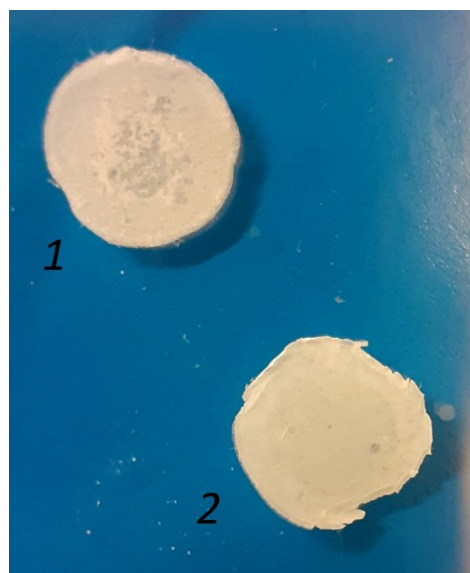


Figure S1. Polymer blends of PEI₅₈-PLA₂₅/PLA₁₅% (1) and PEI₅₈-PLA₂₅-BuBr/PLA₁₅% (2).

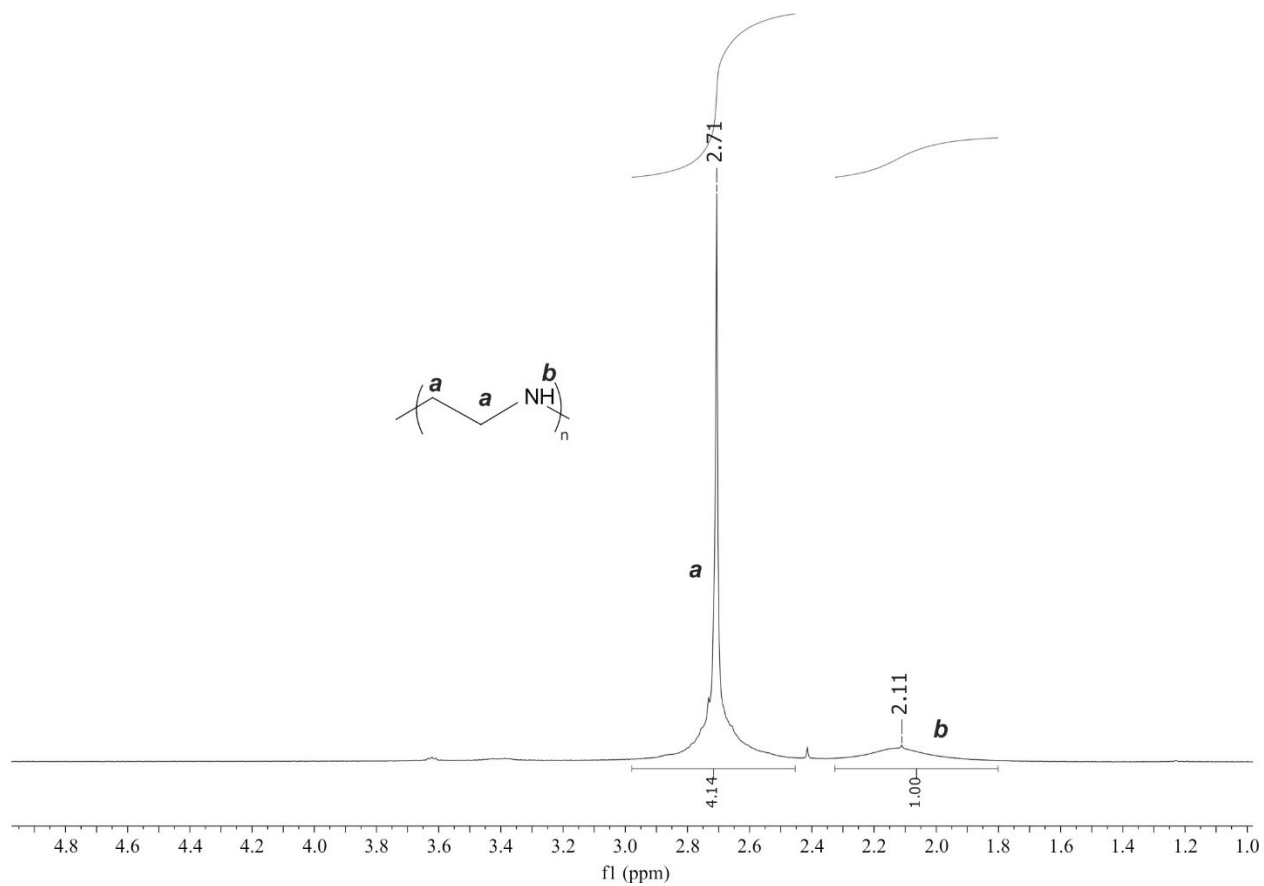


Figure S2. ^1H NMR spectrum of L-PEI, $M_n = 4000 \text{ g mol}^{-1}$ (500 MHz, CDCl_3).

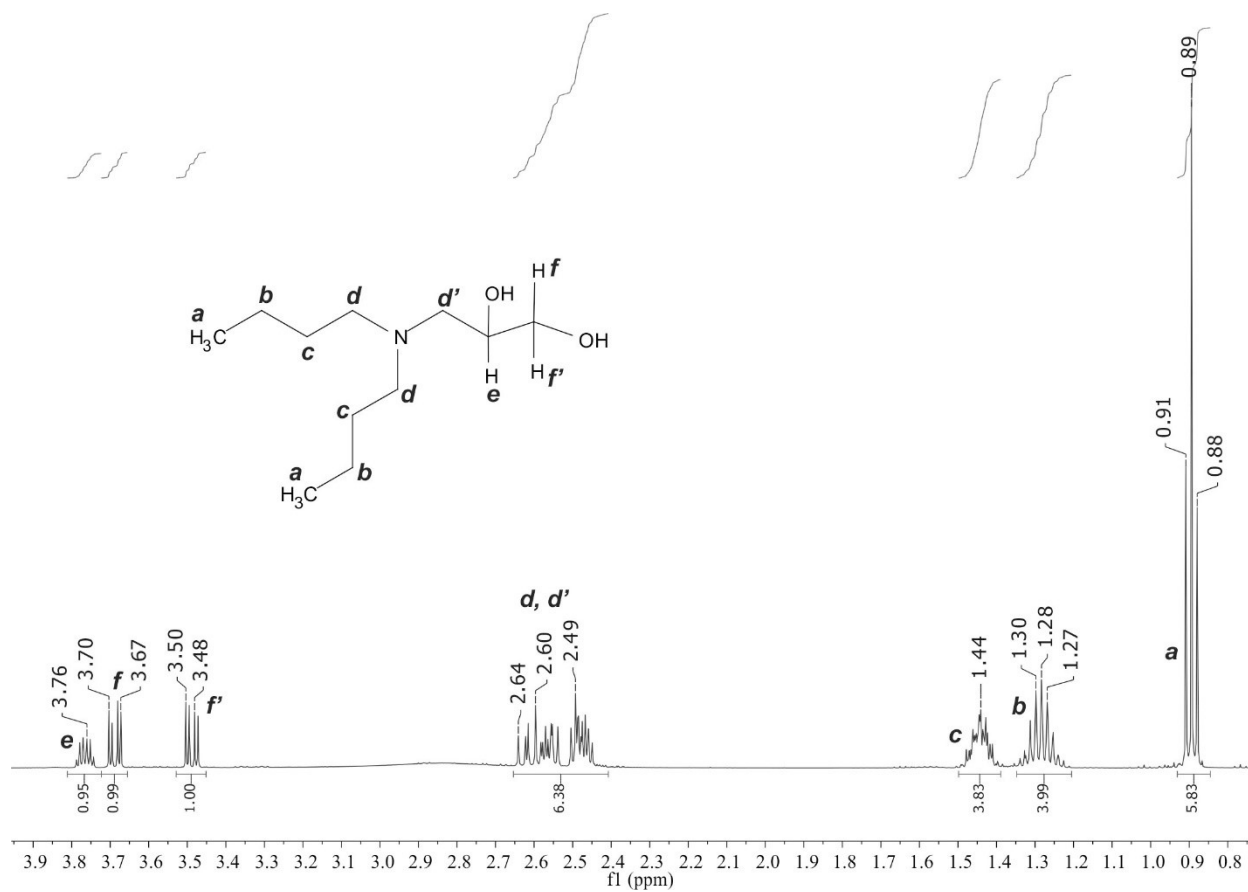


Figure S3. ¹H NMR spectrum of 3-(dibutylamino)propane-1,2-diol (500 MHz, CDCl₃).

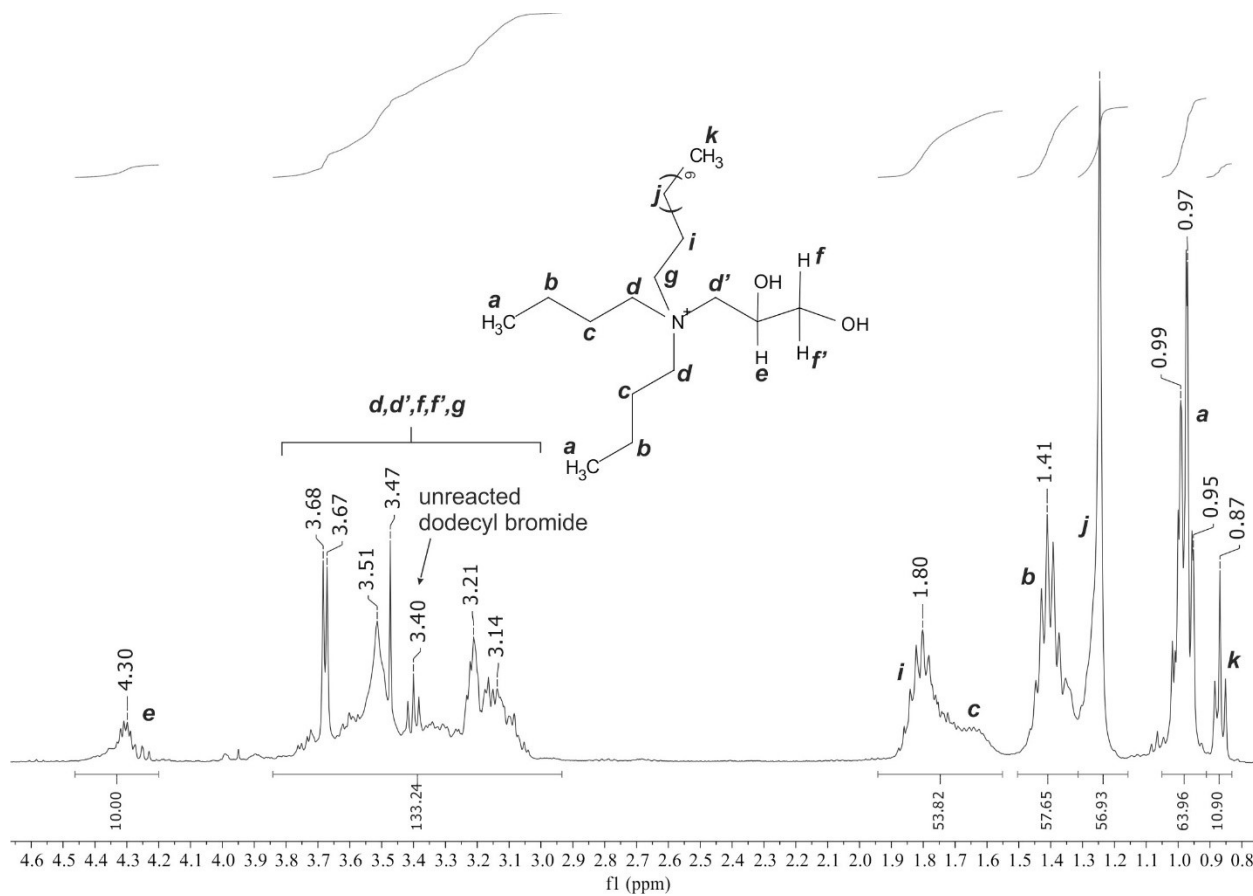


Figure S4. ¹H NMR spectrum of 3-(dibutylamino)-N-dodecylpropane-1,2-diol (400 MHz, CDCl₃).

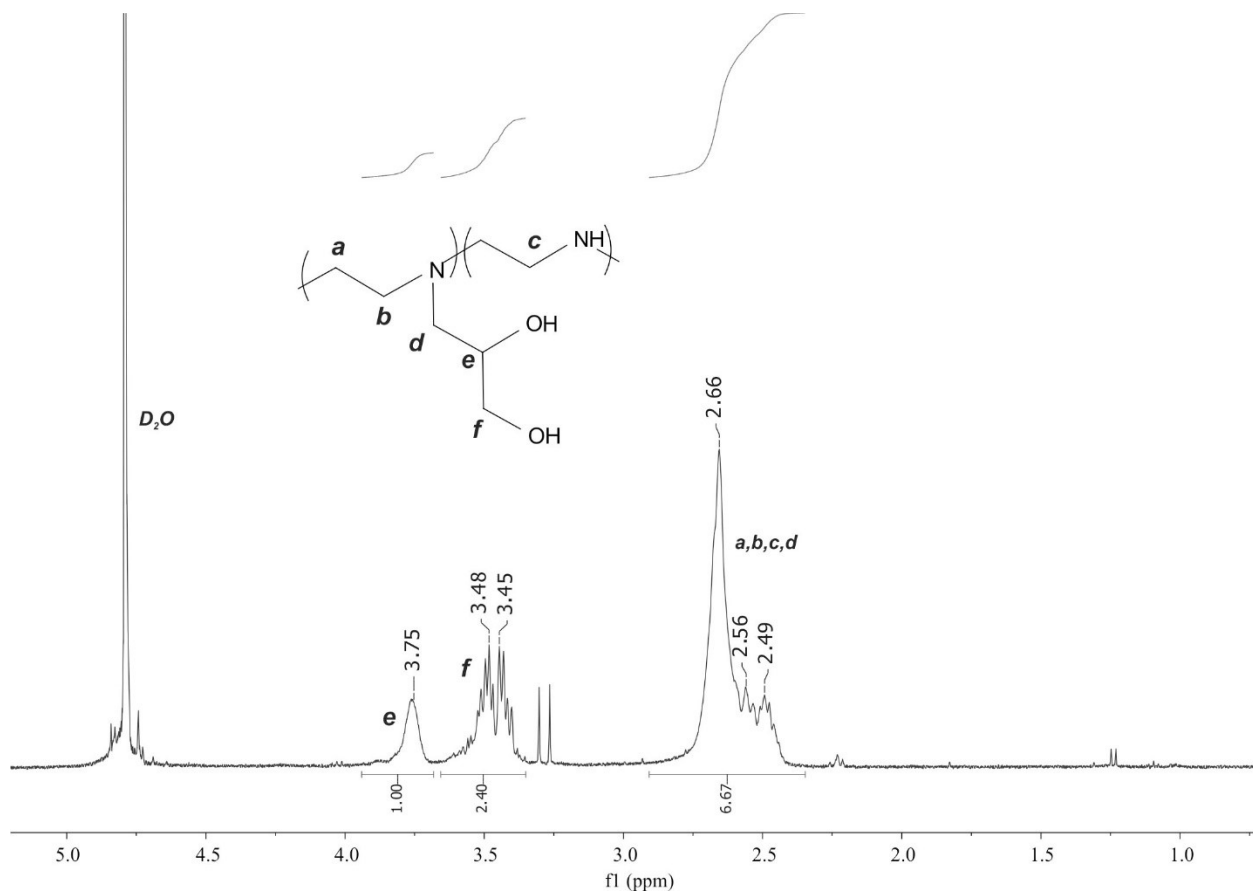


Figure S5. ^1H NMR spectrum of reaction product of linear PEI ($M_n=2500 \text{ g}\cdot\text{mol}^{-1}$) with glycidol in the molar ratio of L-PEI:GLY=1:29 (400 MHz, D_2O).

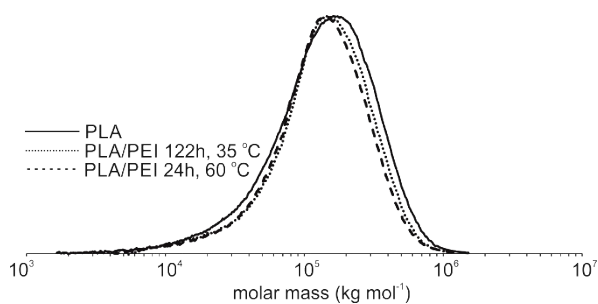


Figure S6. GPC chromatogram of commercial PLA and the reaction mixture of PLA with L-PEI.

Table S1. GPC analysis of commercial PLA and the reaction mixture of PLA with L-PEI.

	Mn (kg·mol ⁻¹)	DI
PLA	79.7	2.22
PLA/L-PEI 122h, 35 °C	83.7	2.02
PLA/L-PEI 24h, 60 °C	84.8	1.91

Table S2. Elemental analysis of PEI₅₈-PLA₂₅ and reaction product with alkyl bromide.

	C [%]	H [%]	N [%]	C/N
PEI ₅₈ -PLA ₂₅	41.39±0.23	6.072±0.178	1.04±0.11	46.43
PEI ₅₈ -PLA ₂₅ -BuBr	41.11±0.30	6.018±0.055	0.92±0.02	52.13
PEI ₅₈ -PLA ₂₅ -OctBr	41.26±0.03	6.125±0.046	0.92±0.05	52.03
PEI ₅₈ -PLA ₂₅ -DodBr	41.90±0.14	6.03±0.074	1.04±0.07	47.00