

SUPPLEMENTARY MATERIALS for
**A Conjugated Polyelectrolyte with Pendant High Dense Short-
Alkyl-Chain-Bridged Cationic Ions: Analyte-Induced Light-Up
and Label-Free Fluorescent Sensing of Tumor Markers**

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Table S1. Isoelectric point (pI) of each protein used in this work.

Protein	Full name	pI	Molecular weight (kDa)	Glyco- protein
BSA	bovine serum albumin	4.9	66	no
Hb	hemoglobin	7.07	64	no
Lys	Lyso zyme	11.0-11.2	14	yes
Mb	myoglobin	6.99	17	yes
AFP	alpha fetoprotein	4.8	7	yes
CEA	carcinoembry onic antigen	4.8	200	yes
PSA	Prostate specific antigen	6.9	33	yes
NSE	neuron-specific enolase	4.7	78	yes
CA19-9	Cancer related antibody	-	36	yes
CA125	Cancer related antibody	-	>5000	yes
CA153	Cancer related antibody	<5	-	yes

Figure S1. Normalized PL spectra of polymer/CA153 in serum/PBS mixture. [RU] = 4.5 μ M, [CA153] = 5 ku. Fraction values calculated by $V_{\text{serum}}/(V_{\text{PBS}}+V_{\text{serum}})$. Excitation at 380 nm and normalized at 440 nm.

