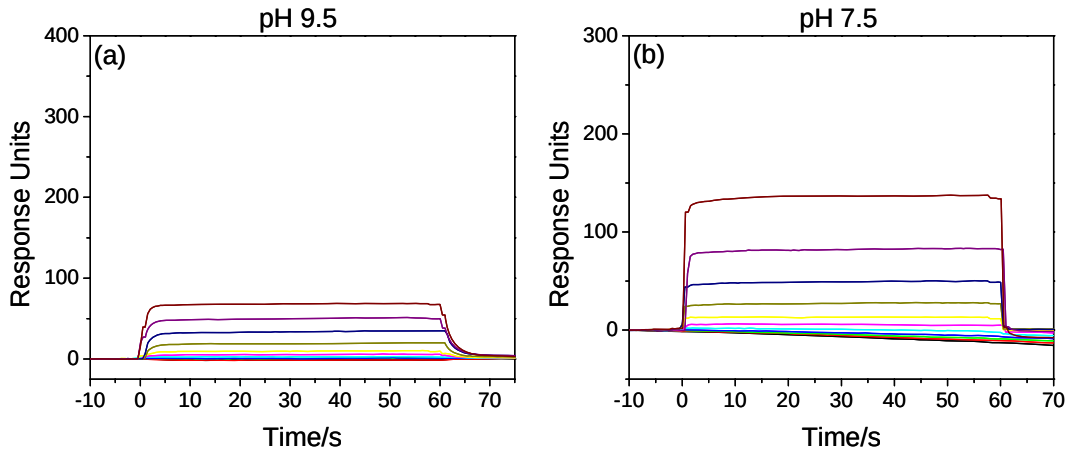
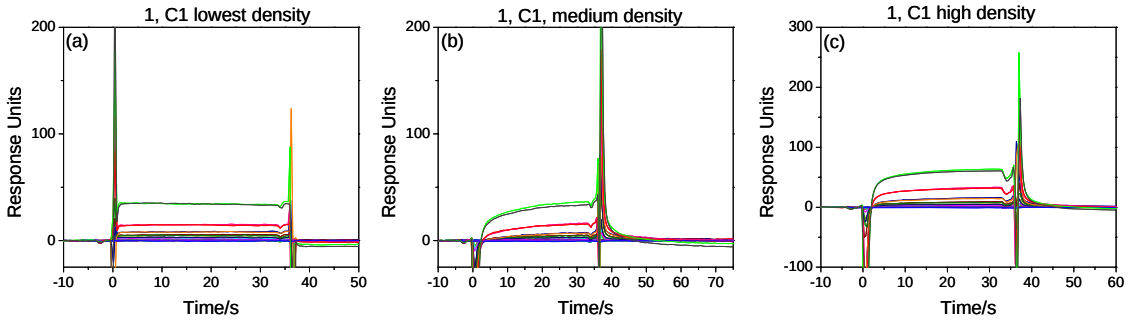
Supporting Information

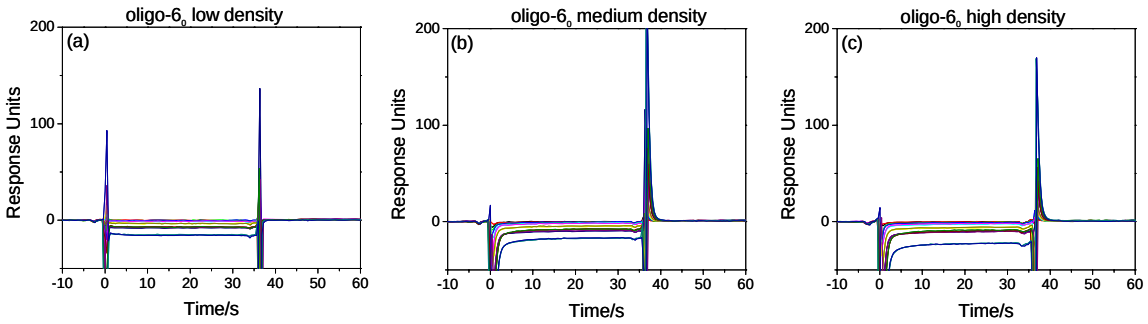
SPR responses for small molecule 1 and oligomers.



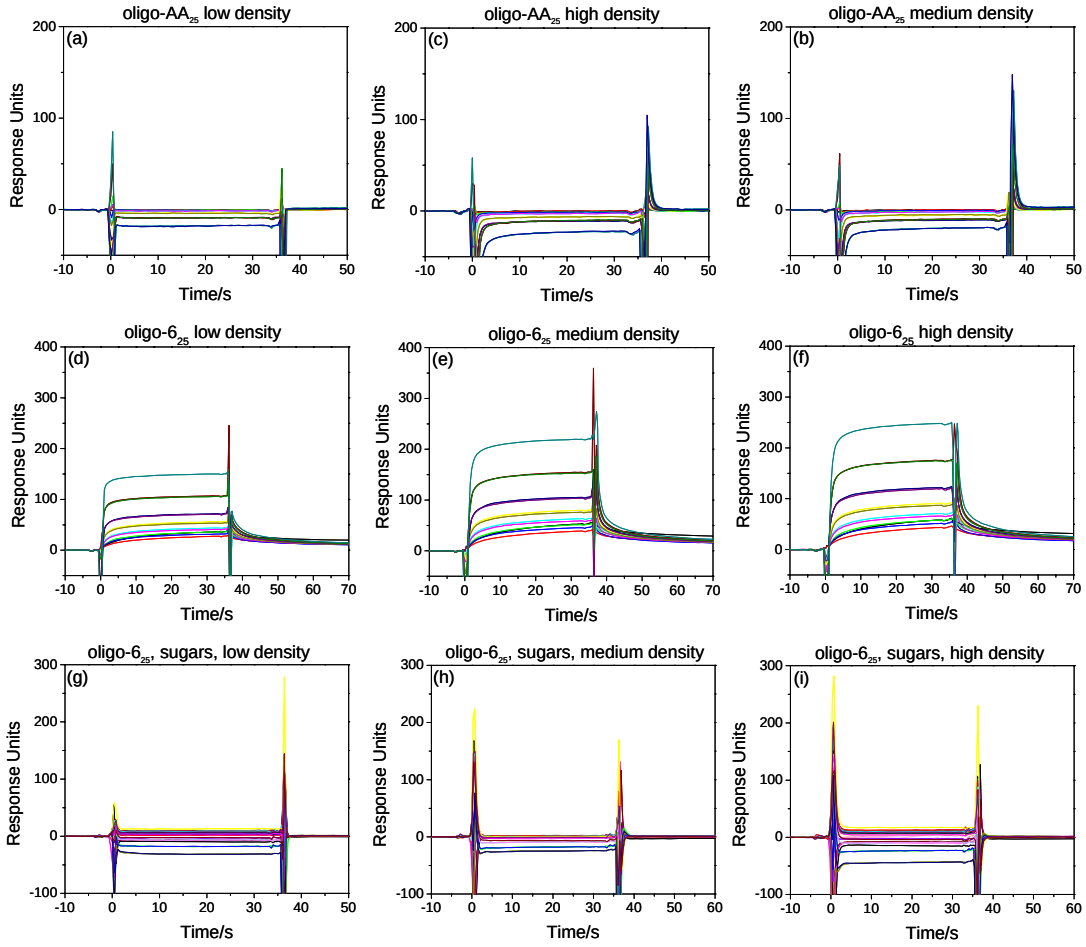
SFigure 1. Responses for benzoboroxole (**1**, 75, 37.5, 18.75, 9.4, 4.7, 2.3, 1.2, 0.6, 0.3, 0.15 mM) binding to a HIV_{BAL} gp120 captured on a carboxylated dextran surface at the lowest density conjugated (3,000 RU) at pH 7.5 (a) and pH 9.5 (b) in a 25 mM phosphate or carbonate buffer.



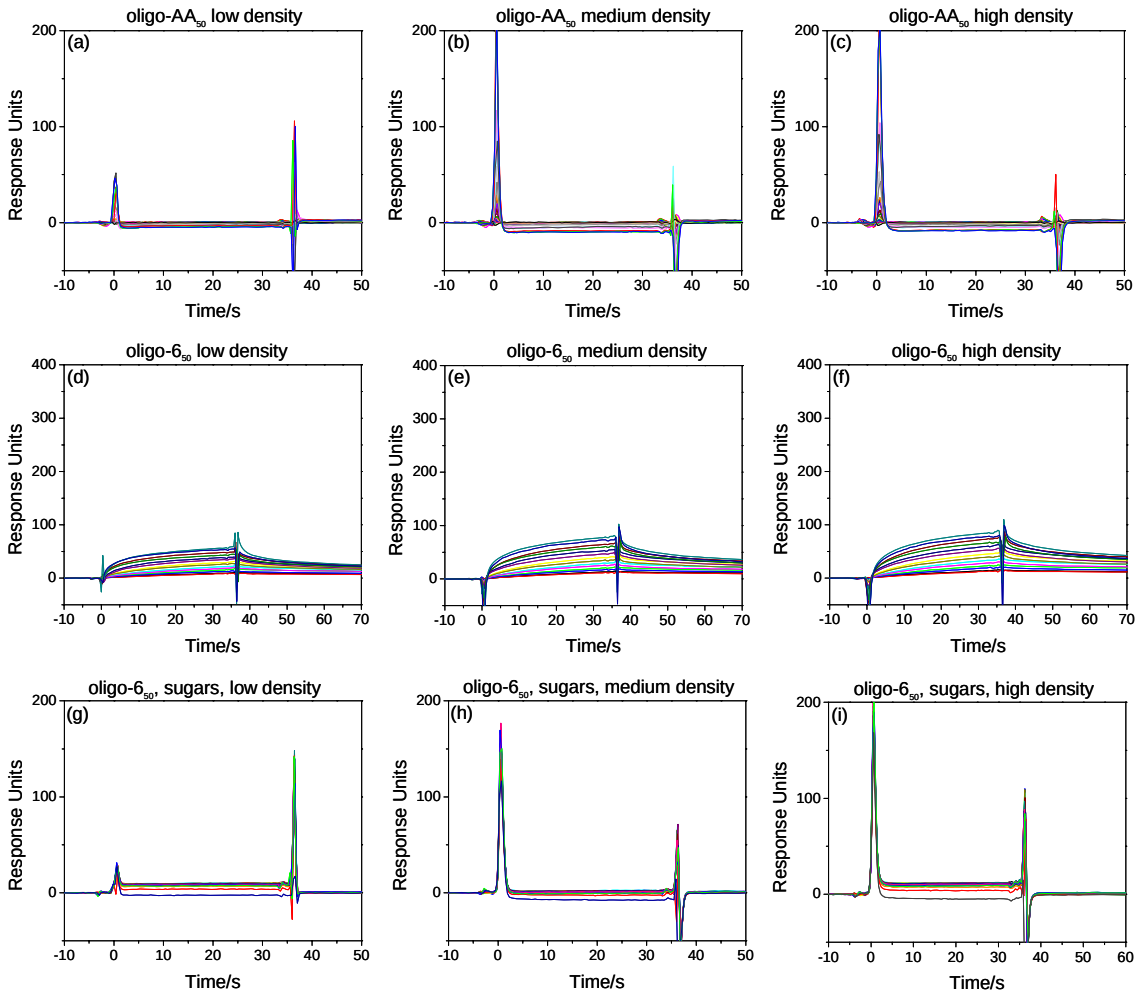
SFigure2. SPR responses for benzoboroxole (**1**) (50, 25, 12.5, 6.25, 3.125, 1.56, 0.78 and 0.39 mM) binding to HIV_{BaL} gp120 captured on a carboxymethyl surface at varying densities of gp120, a) RU 900, b) RU 1400, and c) RU 1600 in pH 7.5, 25 mM phosphate buffer. Two injections were performed for each sample. The wash off phase begins at 35 s. The reference surface was used to subtract out any bulk refractive index change.



SFigure 3. SPR responses for **oligo-6$_0$** (15, 7.5, 3.75, 1.875, 0.938, 0.469, 0.234, 0.117 mg mL^{-1}) binding to HIV$_{BaL}$ gp120 captured on a carboxymethyl surface at varying densities of gp120, a) RU 900, b) RU 1400, and c) RU 1600 in a pH 7.5, 25 mM phosphate buffer. Two injections were performed for each sample. The wash off phase begins at 35 s. The reference surface was used to subtract out any bulk refractive index change.

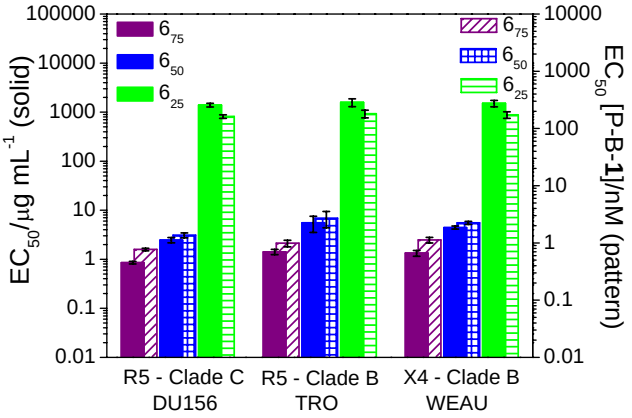


SFigure 4. SPR responses for **oligo-AA$_{25}$** (15, 7.5, 3.75, 1.875, 0.938, 0.469, 0.234, 0.117 mg mL^{-1}) binding to HIV$_{BaL}$ gp120 captured on a carboxymethyl surface at varying densities of gp120, a) RU 900, b) RU 1400, and c) RU 1600. Responses for **oligo-6$_{25}$** (15, 7.5, 3.75, 1.875, 0.938, 0.469, 0.234, 0.117 mg mL^{-1}) binding to HIV$_{BaL}$ gp120 captured on a carboxymethyl surface at varying densities of gp120, d) RU 900, e) RU 1400, and f) RU 1600. Running buffer was a pH 7.5, 25 mM phosphate buffer for samples a-f. Responses for **oligo-6$_{25}$** (15, 7.5, 3.75, 1.875, 0.938, 0.469, 0.234, 0.117 mg mL^{-1}) binding to HIV$_{BaL}$ gp120 captured on a carboxymethyl surface at varying densities of gp120, g) RU 900, h) RU 1400, and i) RU 1600 in the presence of 16mM fructose and 6 mM glucose in a pH 7.5 25 mM phosphate buffer. Two injections were performed for each sample. The wash off phase begins at 35 s. The reference surface was used to subtract out any bulk refractive index change.



SFigure 5. SPR responses for **oligo-AA$_{50}$** (1, 0.5, 0.25, 0.125, 0.0625, 0.0313, 0.0156, 0.00781 mg mL^{-1}) binding to HIV$_{BaL}$ gp120 captured on a carboxymethyl surface at varying densities of gp120, a) RU 900, b) RU 1400, and c) RU 1600. Responses for **oligo-6$_{50}$** (1, 0.5, 0.25, 0.125, 0.0625, 0.0313, 0.0156, 0.00781 mg mL^{-1}) binding to HIV$_{BaL}$ gp120 captured on a carboxymethyl surface at varying densities of gp120, d) RU 900, e) RU 1400, and f) RU 1600. Running buffer was a pH 7.5, 25 mM phosphate buffer for samples a-f. Responses for **oligo-6$_{50}$** (1, 0.5, 0.25, 0.125, 0.0625, 0.0313, 0.0156, 0.00781 mg mL^{-1}) binding to HIV$_{BaL}$ gp120 captured on a carboxymethyl surface at varying densities of gp120, g) RU 900, h) RU 1400, and i) RU 1600 in the presence of 16mM fructose and 6 mM glucose in a pH 7.5 25 mM phosphate buffer. Two injections were performed for each sample. The wash off phase begins at 35 s. The reference surface was used to subtract out any bulk refractive index change.

EC_{50} in polymer concentration (μg mL^{-1}) and polymer-bound 1 (nM)



SFigure 6. EC_{50}'s determined from the single-cycle HIV-1 infectivity inhibition for **6_{25}**, **6_{50}**, and **6_{75}** against R5 DU156 (Clade B), R5 TRO (Clade C), isolated from acute sexually transmitted infections, and the pseudotyped X4 WEAU (Clade B) viral strains. The EC_{50} for polymer concentrations (μg mL^{-1}) represented by the solid bars, left y-axis. By ANOVA there was no statistical difference in the EC_{50} of each polymer compared across the three strains ($p < 0.05$). The patterned bars (right y-axis) display the EC_{50} presented as a function of concentration of polymer-bound-**1** **(**P-B-**1**, nM) for each polymer against the three viral strains. N=3, Mean ± SD.