

## Electronic supplementary information

### Temperature-Responsive Molecular Recognition Chromatography using Phenylalanine and Tryptophan Derived Polymers Modified Silica Beads

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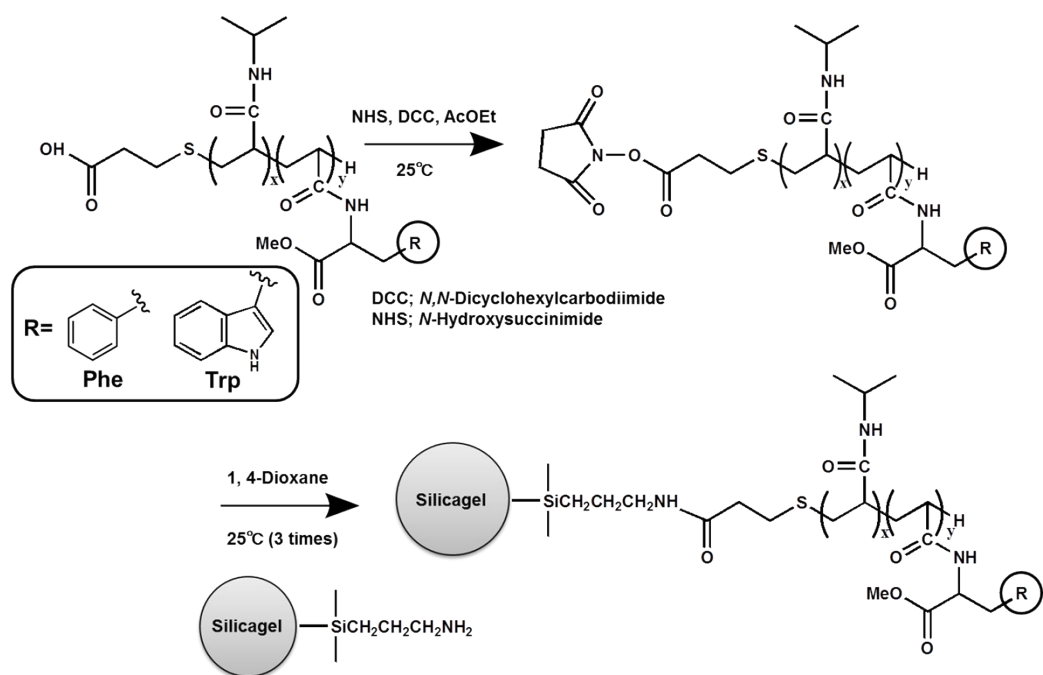


Fig. S1. Modification of aminopropyl silica surface.

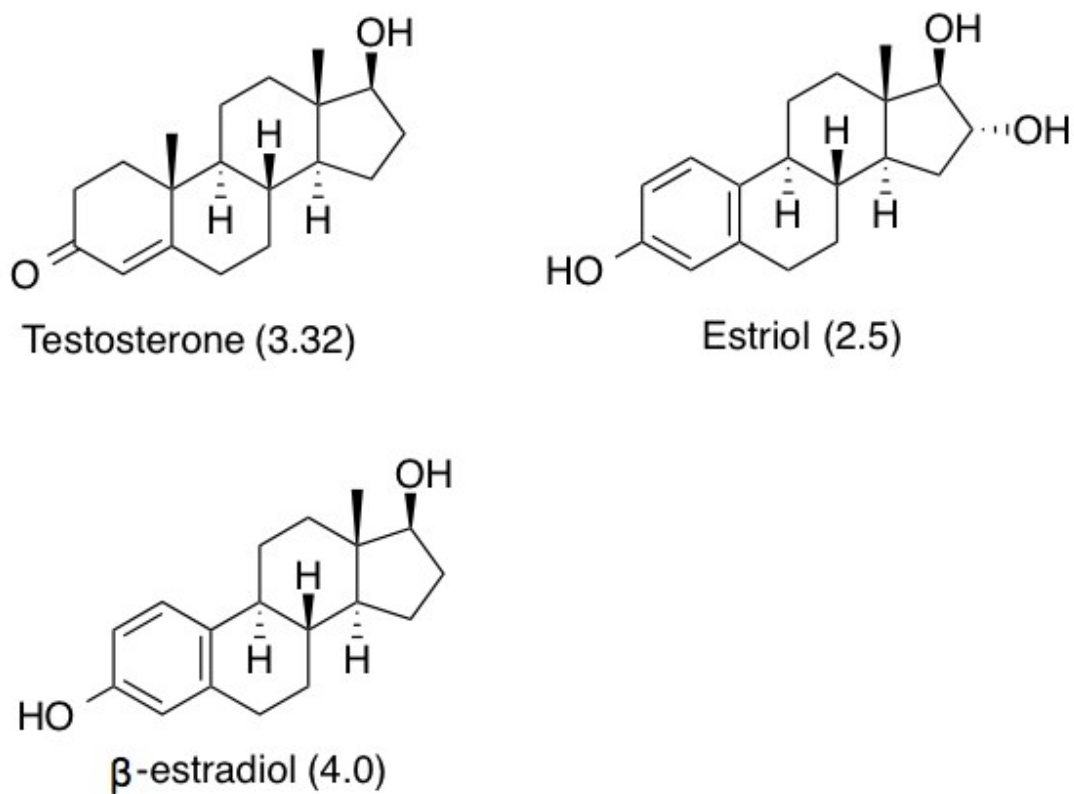


Fig. S2. Chemical structures and log *P* values of the steroids

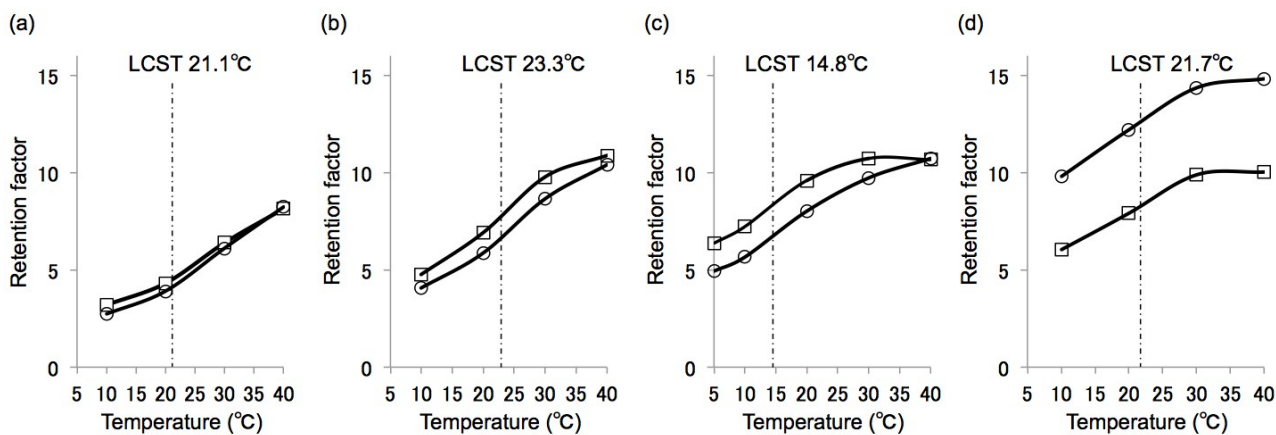


Fig. S3. Temperature dependence of the retention factors for the sexual steroids on (a) P(NIPAAm-*co*-BMA5), (b) P(NIPAAm-*co*-Phe-OMe5), (c) P(NIPAAm-*co*-Phe-OMe10), and (d) P(NIPAAm-*co*-Trp-OMe5) HPLC columns: (○) testosterone and (□) estriol.

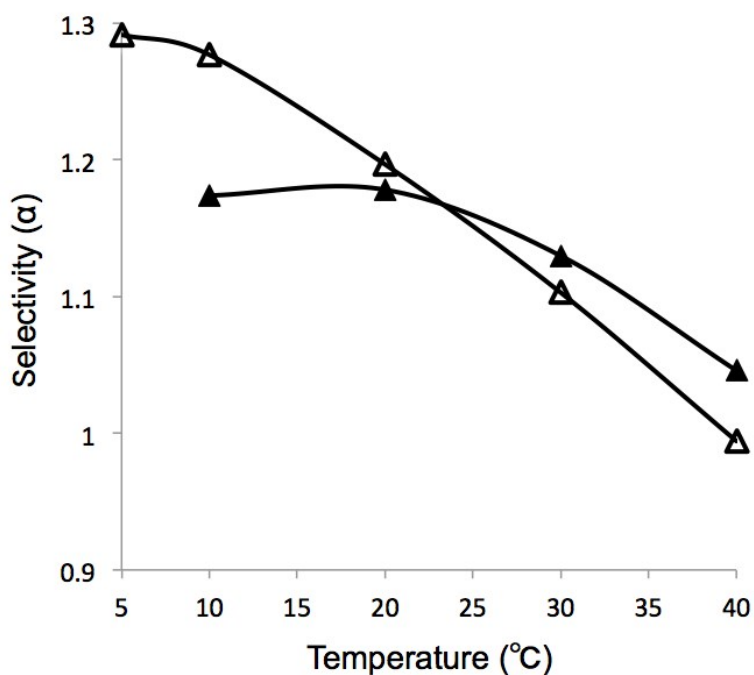


Fig. S4. Temperature dependence of the selectivity of estriol and testosterone on (▲) P(NIPAAm-*co*-Phe-OMe5) and (△) P(NIPAAm-*co*-Phe-OMe10) HPLC columns.

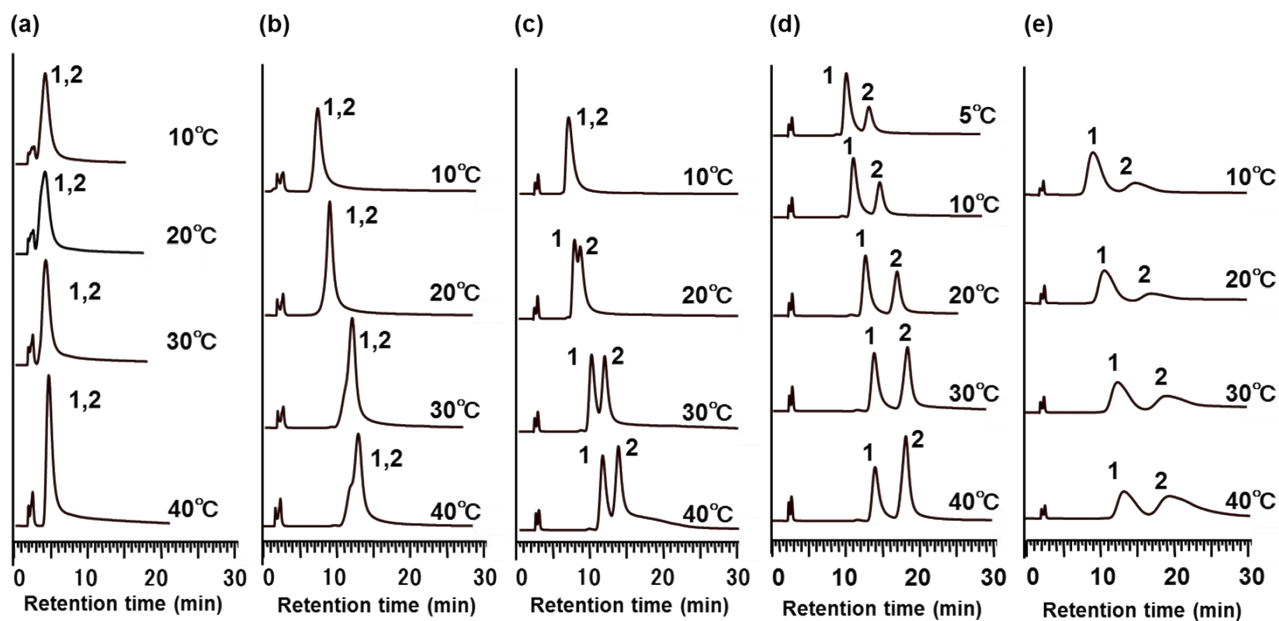
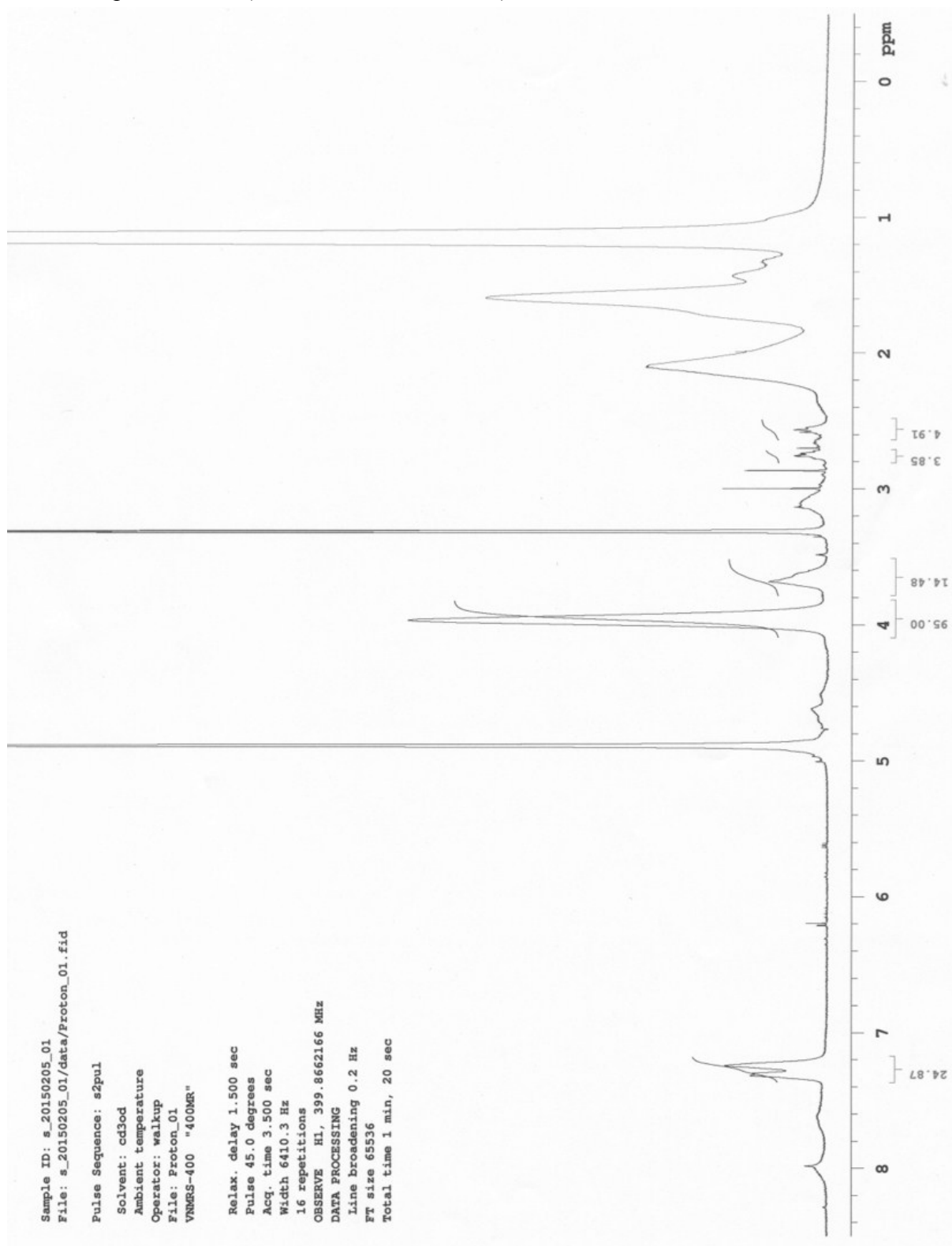
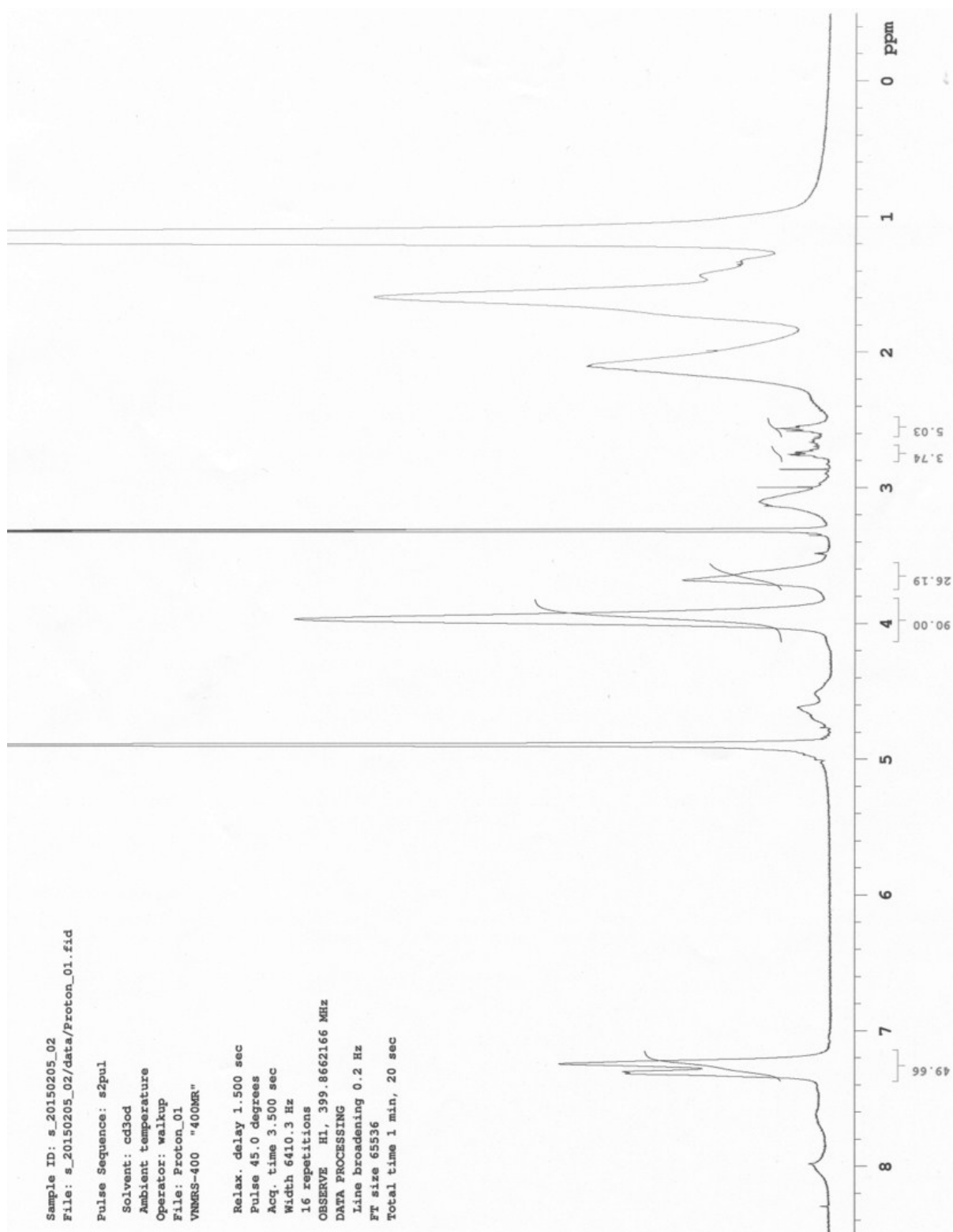


Fig. S5. Chromatograms of (1) naphthalene and (2) 1,5-dinitronaphthalene on (a) PNIPAAm (b) P(NIPAAm-co-BMA5) (c) P(NIPAAm-co-Phe-OMe5), (d) P(NIPAAm-co-Phe-OMe10), and (e) P(NIPAAm-co-Trp-OMe5) HPLC columns at various temperatures.

$^1\text{H}$  NMR spectrum of P(NIPAAm-co-Phe-OMe5)



<sup>1</sup>H NMR spectrum of P(NIPAAm-co-Phe-OMe10)



<sup>1</sup>H NMR spectrum of P(NIPAAm-co-Trp-OMe5)

