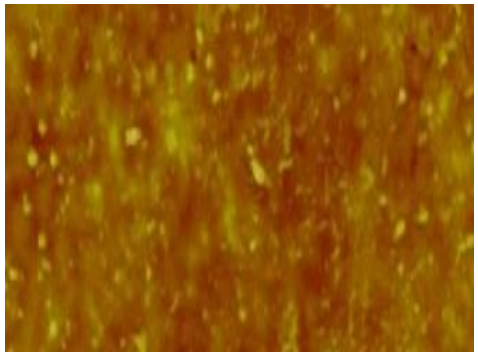
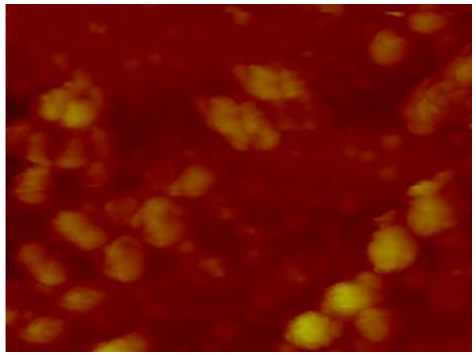
Figure S1. AFM images of dopamine- or plant phenol-coated PET films.

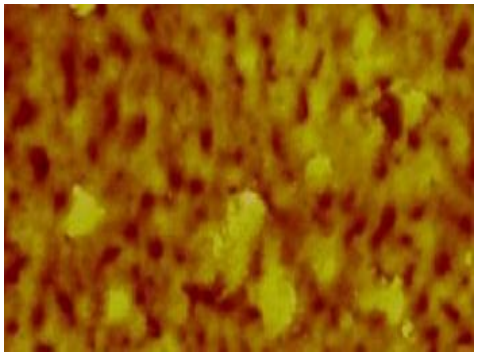
(A) Dopamine



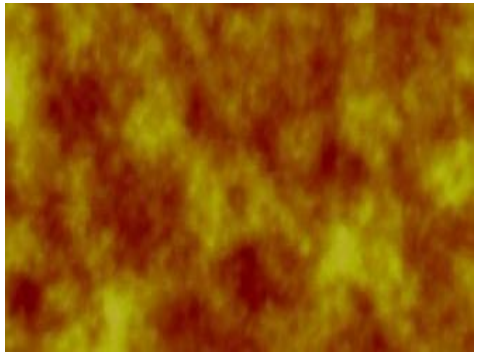
(B) Catechin/Catechol



(C)Ferulic acid/Catechol



(D) Catechin/Syringic acid



(E) Tannic acid/Catechol

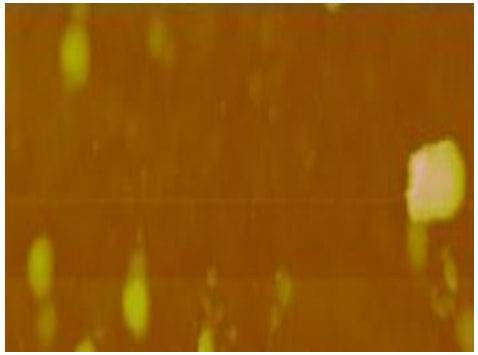
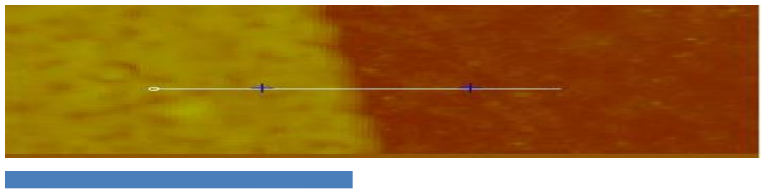


Figure S2. AFM image of 1N NaOH-soaked PET film for coating thickness measurement. The representative picture of ferulic acid/catechol-coated PET film is shown.



1N NaOH-soaked surface

Figure S3. Sulfur (S 2p) XPS peak of PET films coated with dopamine or plant phenols with a precursor, 2-dimethylaminoethanethiol for co-immobilization. **(A)** Dopamine; **(B)** Catechin/Catechol; **(C)** Ferulic acid/Catechol; **(D)** Catechin/Syringic acid; **(E)** Tannic acid/Catechol

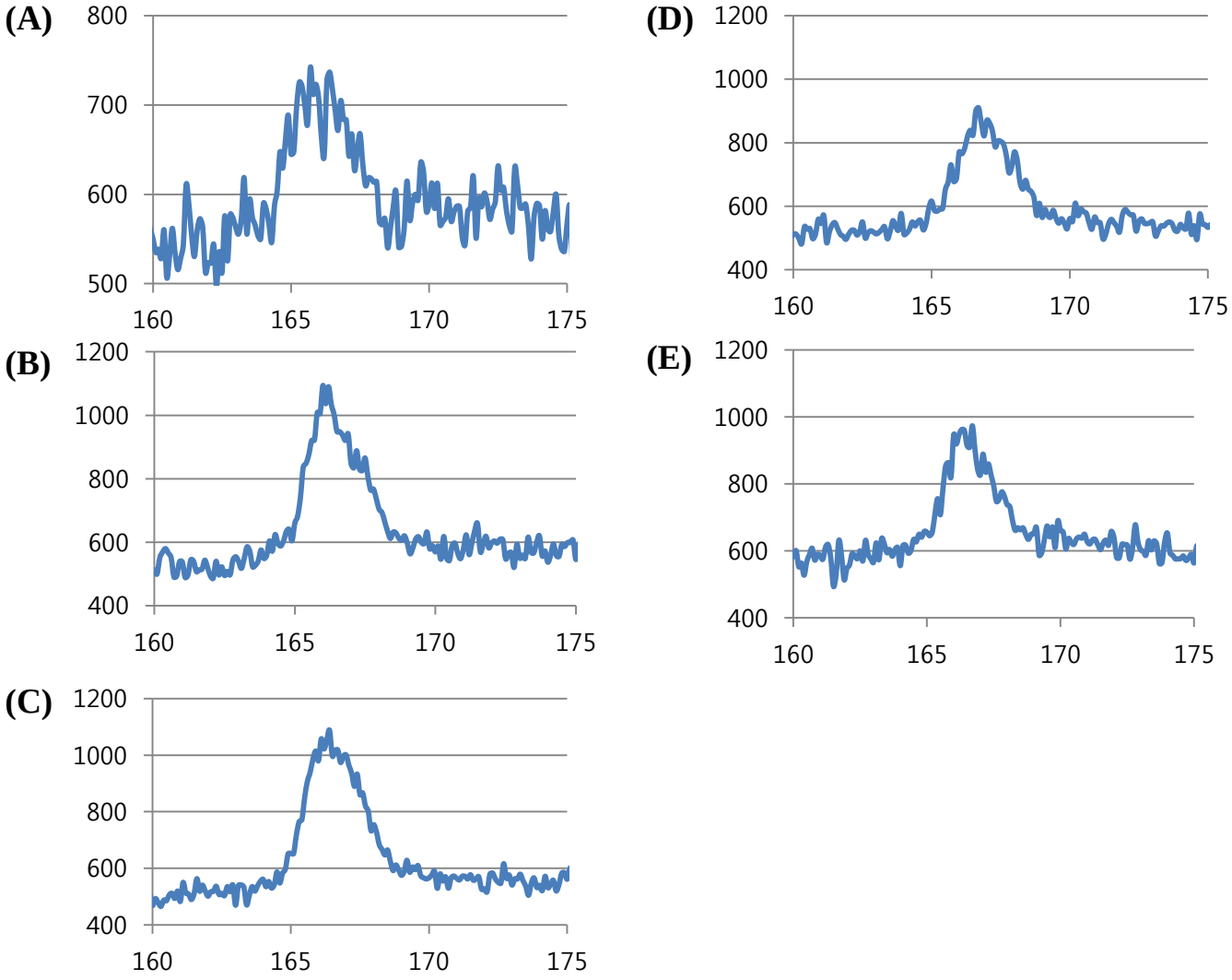


Table S1. Water contact angle of dopamine- or plant phenol-coated hydrophobic films shown in Figure 3E. Averages and standard deviations of six-measurement were shown.

	Naïve	**Dopamine**	**Catechin /Catechol**	**Ferulic acid /Catechol**	**Catechin /Syringic acid**	**Tannic acid /Catechol**
Polypropylene	91.2 ± 2.4	63.8 ± 2.5	69.4 ± 0.9	67.7 ± 3.3	70.4 ± 2.3	65.8 ± 2.8
PET	79.8 ± 0.3	52.2 ± 1.7	62.9 ± 2.8	55.0 ± 1.8	61.2 ± 1.2	64.8 ± 3.6

Table S2. Surface chemical compositions of the dopamine-coated PET films before and after BSA immobilization. The data were obtained from the peak intensities of the XPS spectra shown in Figure 4D-E (first line).

	C 1s (%)	N 1s (%)	O 1s (%)
Dopamine coated	73.77	6.42	19.81
BSA post-immobilized	68.73	11.43	19.83