Effects of Urban Particulate Matter on the Secondary Structure of Albumin

Samal Kaumbekova, Naoya Sakaguchi, Yuto Miyamoto, Atsuto Onoda, Yasuhiro Ishihara, and
Masakazu Umezawa*

Supplementary Material

Table S1. Chemical compositions (μg/g) of PM

	PMM	PMO
Soluble ions		
Cl^-	0	5473
NO_3^-	6961	18040
SO_4^{2-}	46711	81304
Na^+	0	2457
NH_4^+	1410	2943
K^+	0	2834
Mg^{2+}	0	2878
Ca^{2+}	24506	40732
Metals and sulfur		
Mg	15800	14000
Al	72000	50400
K	17100	13700
Ca	54200	66900
Ti	3690	2920
Fe	40200	29200
Zn	692	1140
S	14800	39100
Carbons		
Organic carbon	23505	57369
Elemental carbon	17758	64709
***PAHs**		
Fluoranthene	0.17	0.8
Chrysene	0.31	2.8
Benzo[b]fluoranthene	0.78	8.4
Benzo[k]fluoranthene	0.31	3.2
Benzo[e]pyrene	0.34	3.2
Benzo[a]pyrene	0.13	0.98
Indeno[1,2,3-cd]pyrene	0.22	2.2
Dibenz[a,h]anthracene	0.064	0.85
Benzo[ghi]perylene	0.22	2.0
Coronene	0.2	1.0
Total PAHs	3.1	27

[*PAHs = polycyclic aromatic hydrocarbons]
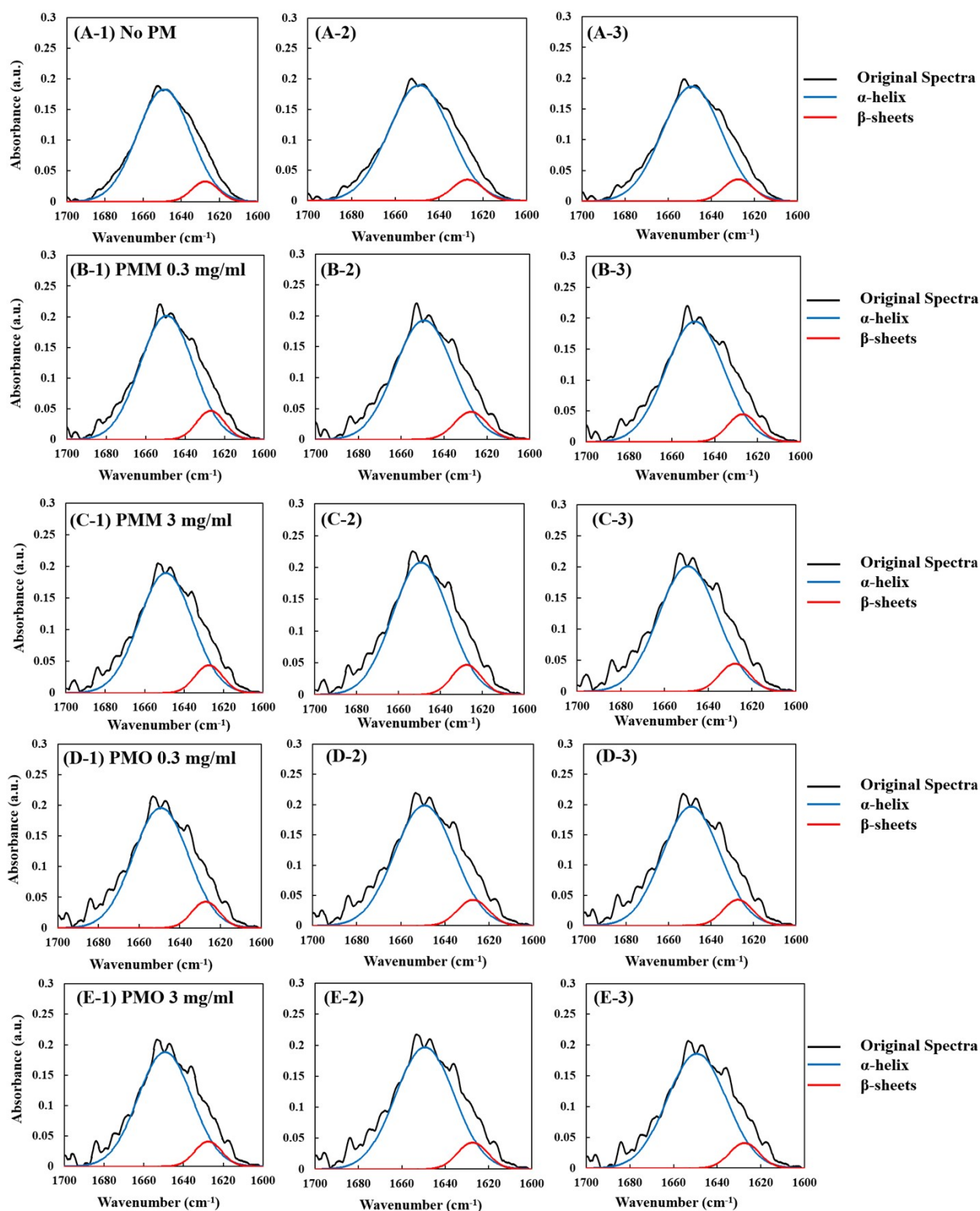
Figure S1. FT-IR measurements of amide I absorption spectra of BSA (30 mg/mL) stirred for 24 h with different PM compositions and concentrations: (A) no PM, (B) 0.3 mg/mL PMM, (C) 3 mg/mL PMM, (D) 0.3 mg/mL PMO, and (E) 3 mg/mL PMO. The average and standard deviation values are shown in the main manuscript text (Figure 3).