Supporting Information

Label-Free Detection of β-Amyloid Peptides (Aβ40 and Aβ42): A Colorimetric Sensor Array for Plasma Monitoring of Alzheimer's Disease

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Table of Contents

Fig. S7. Intensity size distribution of the AgNPs (a), AgNPs (0.27 nmol L^{-1}) in the presence of 130 μmol L^{-1} Cu(II), pH 5.0 at 20 min and 300 nmol L^{-1} of Aβ40 (b), AgNPs (0.27 nmol L^{-1}) in the presence of 130 μmol L^{-1} Cu(II), pH 5.0 at 20 min and 300 nmol L^{-1} of Aβ42 (c) and AgNPs (0.27 nmol L^{-1}) in the presence of 130 μmol L^{-1} Cu(II), pH 5.0 at 20 min and 300 nmol L^{-1} of HAS (d).   9S

Fig. S8. Absorbance response patterns of sensor elements against Aβ40, Aβ42 and HSA at concentrations (a) 50, (b) 75, (c) 100, (d) 150, (e) 200, (f) 300, (g) 400, and (h) 500 nmol L^{-1} at 3 wavelengths of 420, 530, 620 nm.   10S

Fig. S9. Heat map of the absorbance response patterns for sensor elements against Aβ40, Aβ42 and HSA at concentrations (a) 50, (b) 75, (c) 100, (d) 150, (e) 200, (f) 300, (g) 400, and (h) 500 nmol L^{-1} at 3 wavelengths of 420, 530, 620 nm. In the rainbow color scale, a dark red is for the highest positive value and a dark purple is for the highest negative value.
                                     11S

Table S1. Leave-one-out analysis by Jackknifing in linear discriminant analysis. Each group contains 8 concentrations of analyte (Aβ40, Aβ42, and HSA) with 6 replicates.
                                     12S

Fig. S10. Absorbance spectra of (a) AuNPs and (b) AgNPs (0.27 nmol L^{-1} in the presence of 130 μmol L^{-1} Cu(II), pH 5.0 before and after exposure to total 500 nmol L^{-1} of Aβ40, Aβ42 and their mixtures at 20 min.   13S

Table S2. Leave-one-out analysis by Jackknifing in linear discriminant analysis. Each group contains one concentration of analyte with 6 replicates.   14S

Fig. S11. Absorbance spectra of (a) AuNPs and (b) AgNPs (0.27 nmol L^{-1} in the presence of 130 μmol L^{-1} Cu(II), pH 5.0 before and after exposure to the lysine, alanine, leucine, glycine, proline, threonine, methionine, valine, glutathione, FeCl$_3$, KCl, NaCl, CaCl$_2$, and ZnCl$_2$, as interferences.   15S

Table S3. Leave-one-out analysis by Jackknifing in linear discriminant analysis. Each group contains analyte or interferences with 6 replicates.   16S

Fig. S12. Two-dimensional LDA plot, after combining the real sample with the training set data. Plasma was spiked with Aβ40 and Aβ42 at concentrations of 500 nmol L^{-1}.

                                     17S
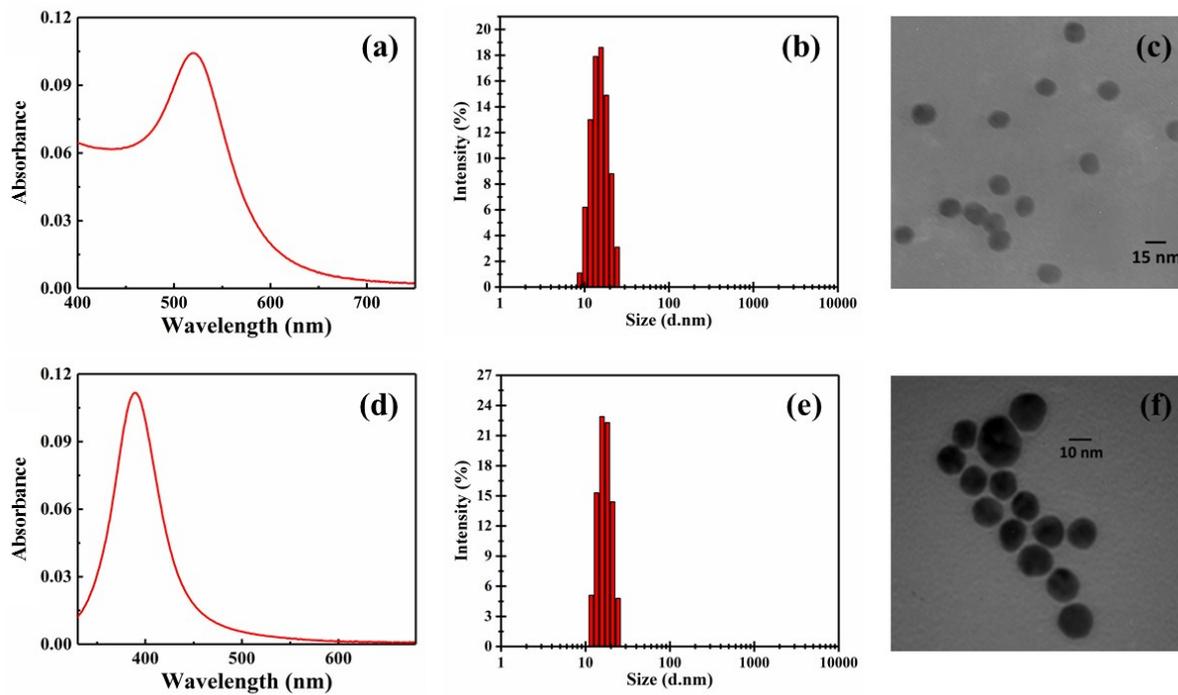
Fig. S1. UV–Vis spectrum, intensity size distribution, and TEM image of AuNPs (a, b, c, respectively), and AgNPs (d, e, f, respectively).
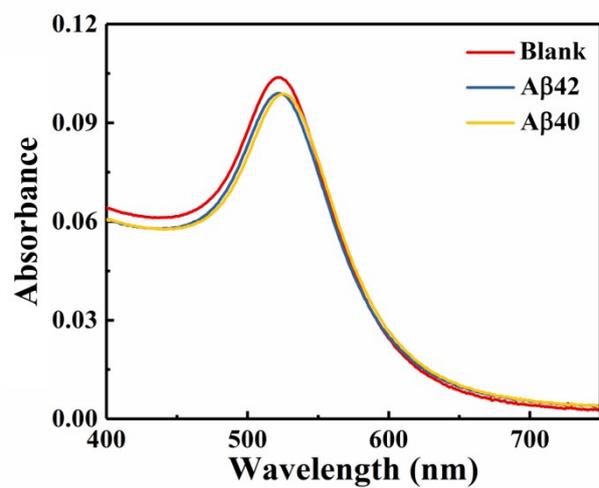
Fig. S2. Absorbance spectra of AuNPs (0.27 nmol L^{-1}) in the presence of 300 nmol L^{-1} of Aβ40 and Aβ42 at pH 5.0, 20 min.
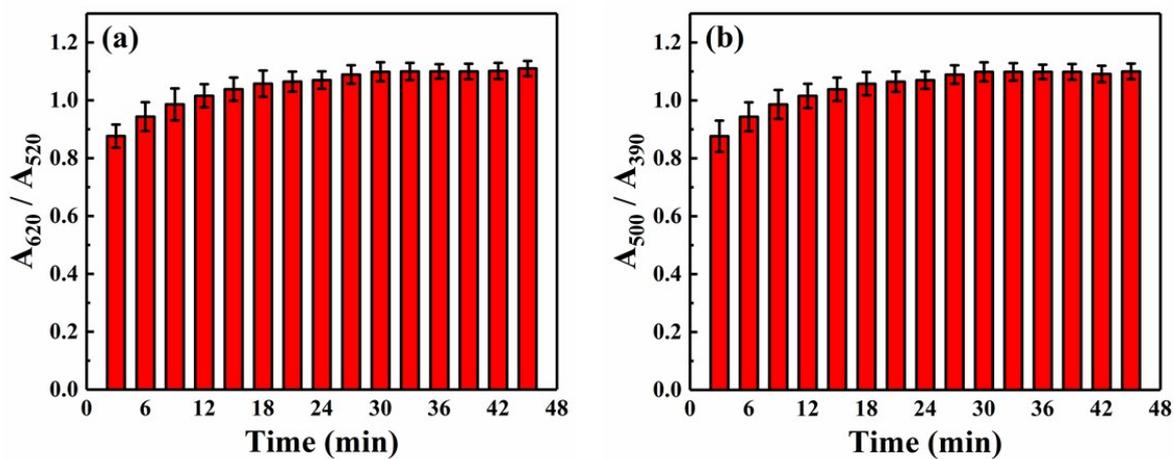
Fig. S3. Effect of time on the aggregation process of Aβ40 (300 nmol L^{-1}) in the presence of 130 μmol L^{-1} of Cu(II), 0.27 nmol L^{-1} of (a) AuNPs or (b) AgNPs and pH 5.0.
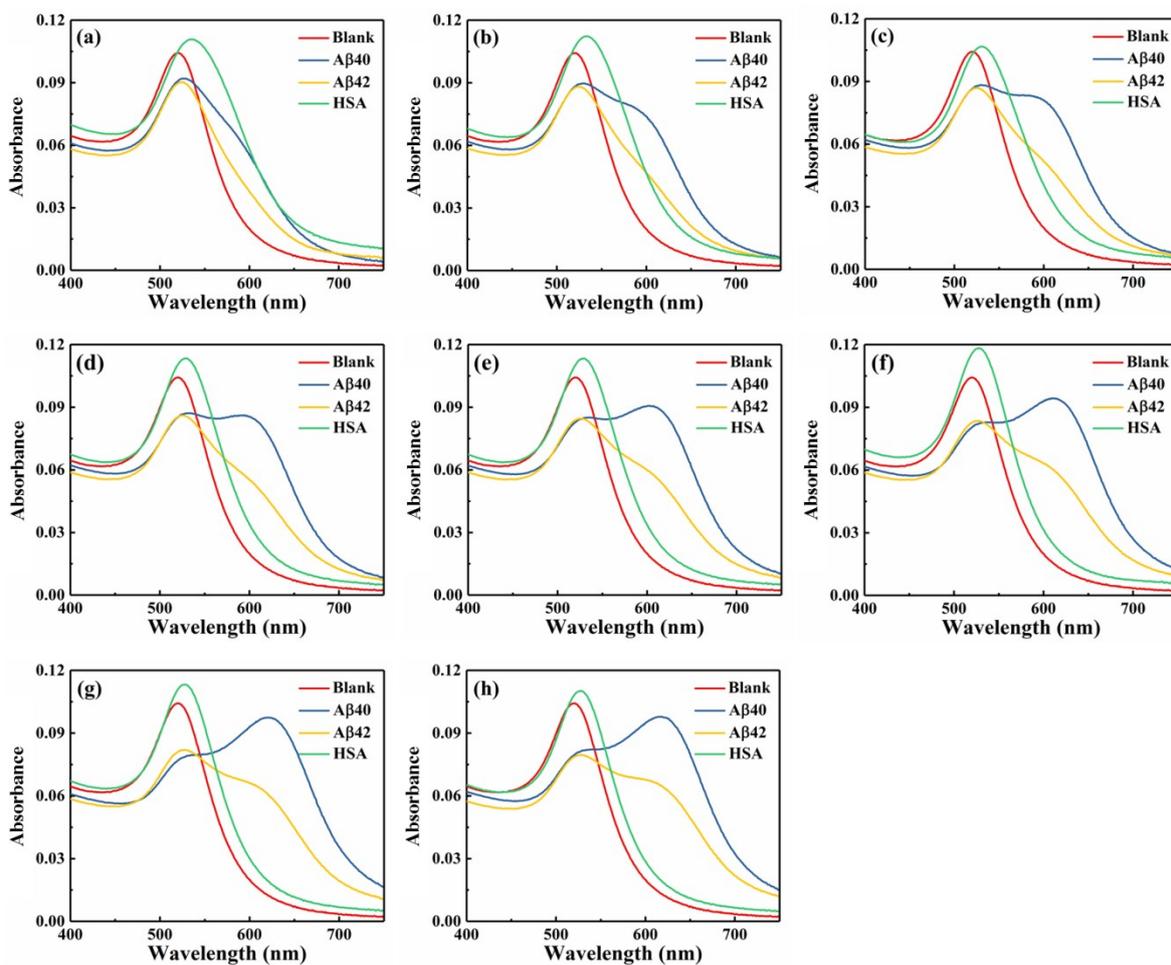
Fig. S4. Absorbance spectra of AuNPs (0.27 nmol L^{-1}) in the presence of 130 µmol L^{-1} Cu(II), pH 5.0, 20 min, and Aβ40, Aβ42, HSA at different concentration of (a) 50, (b) 75, (c) 100, (d) 150, (e) 200, (f) 300, (g) 400, and (h) 500 nmol L^{-1}.
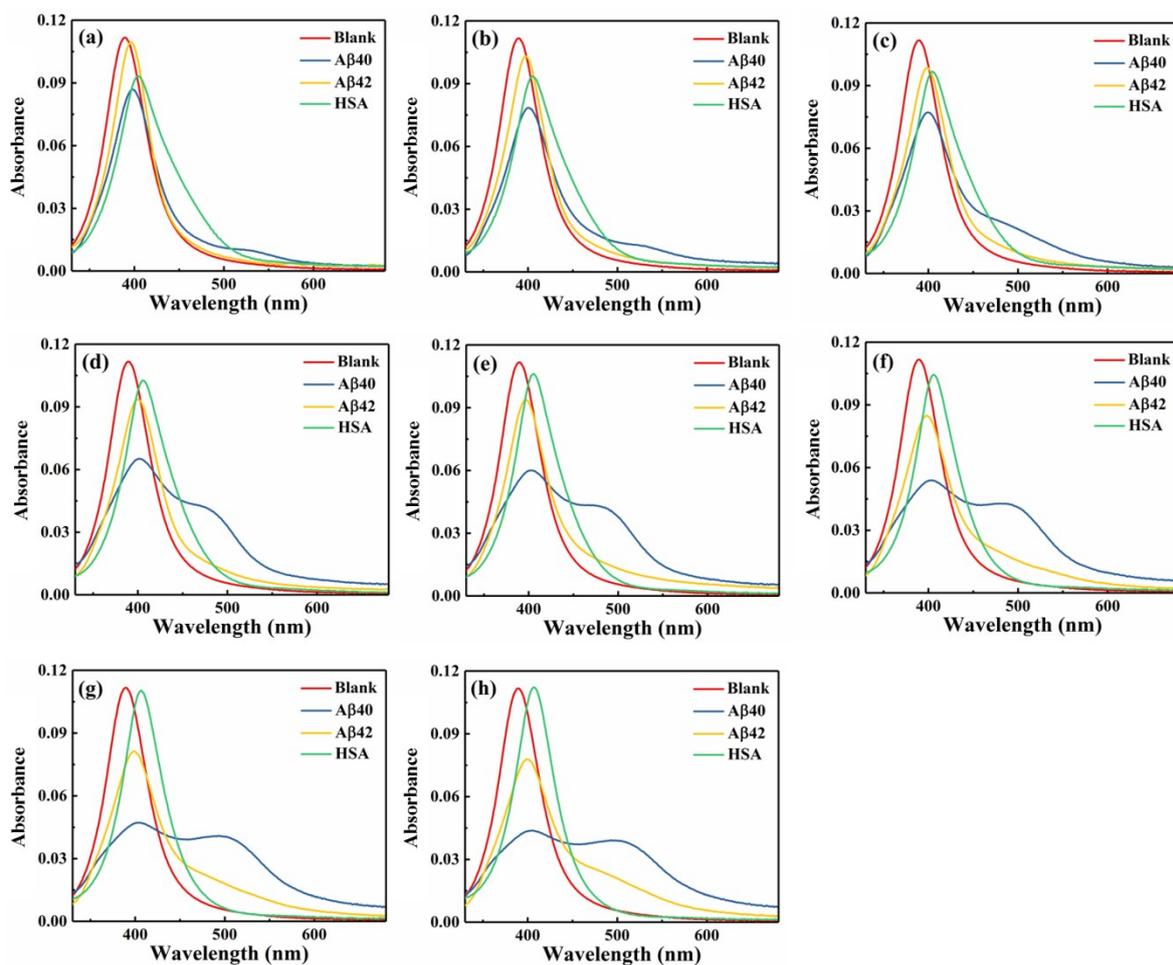
Fig. S5. Absorbance spectra of AgNPs (0.27 nmol L^{-1}) in the presence of 130 μmol L^{-1} Cu(II), pH 5.0, 20 min, and Aβ40, Aβ42, HSA at different concentration of (a) 50, (b) 75, (c) 100, (d) 150, (e) 200, (f) 300, (g) 400, and (h) 500 nmol L^{-1}.
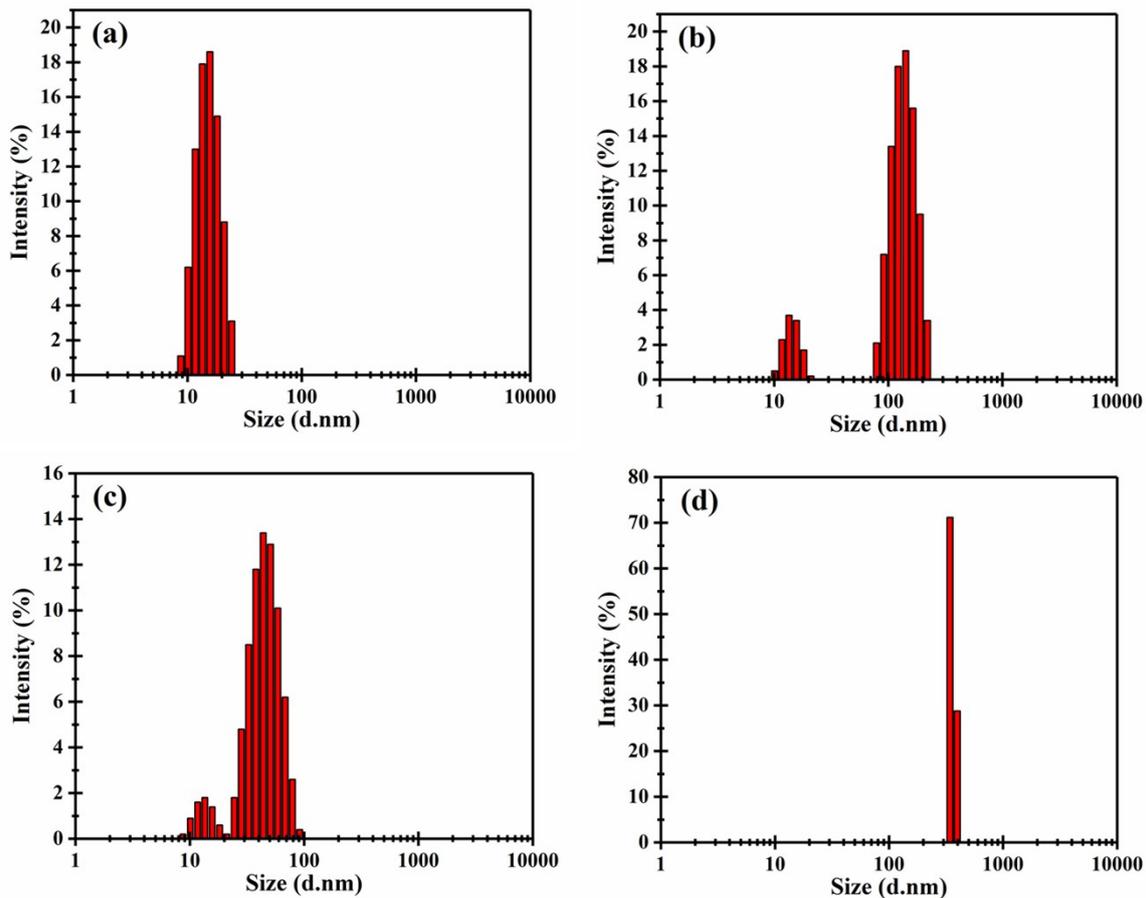
Fig. S6. Intensity size distribution of the AuNPs (a), AuNPs (0.27 nmol L^{-1}) in the presence of 130 μmol L^{-1} Cu(II), pH 5.0 at 20 min and 300 nmol L^{-1} of Aβ40 (b), AuNPs (0.27 nmol L^{-1}) in the presence of 130 μmol L^{-1} Cu(II), pH 5.0 at 20 min and 300 nmol L^{-1} of Aβ42 (c) and AuNPs (0.27 nmol L^{-1}) in the presence of 130 μmol L^{-1} Cu(II), pH 5.0 at 20 min and 300 nmol L^{-1} of HAS (d).
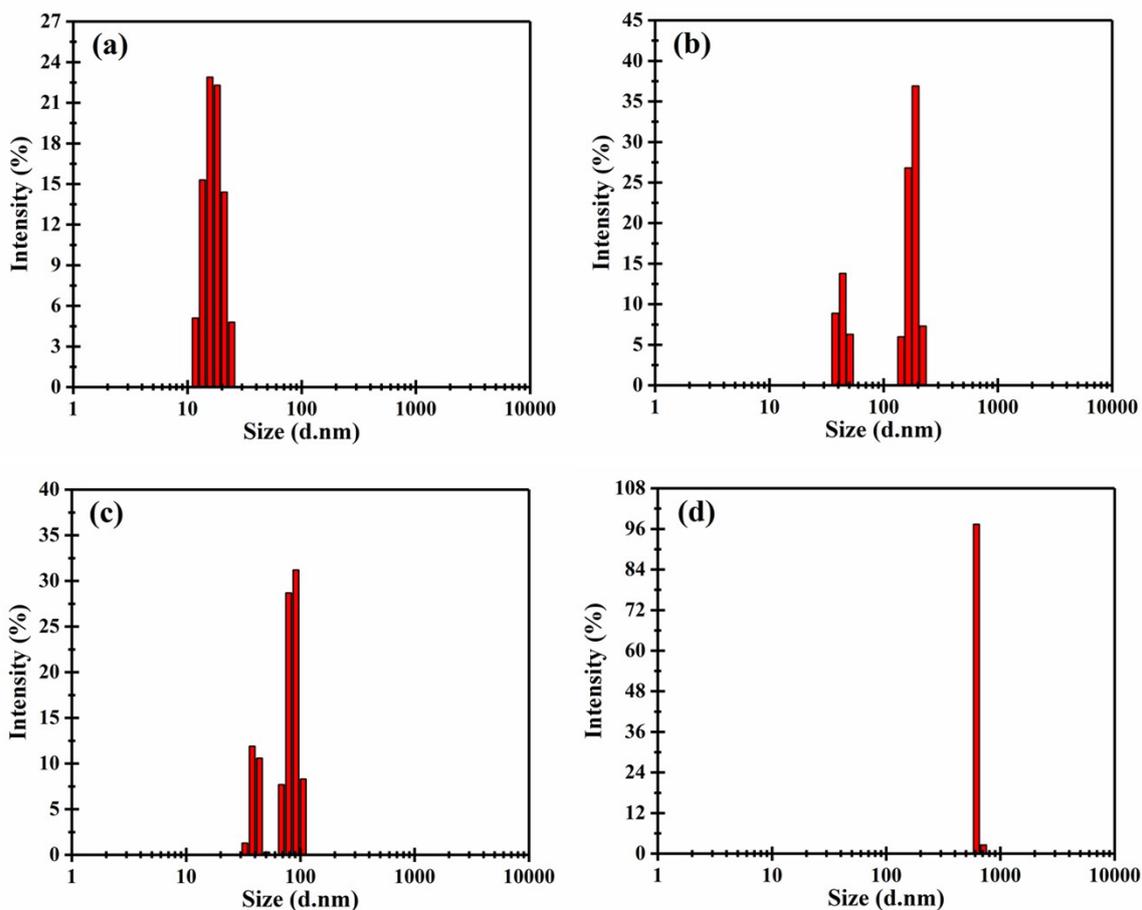
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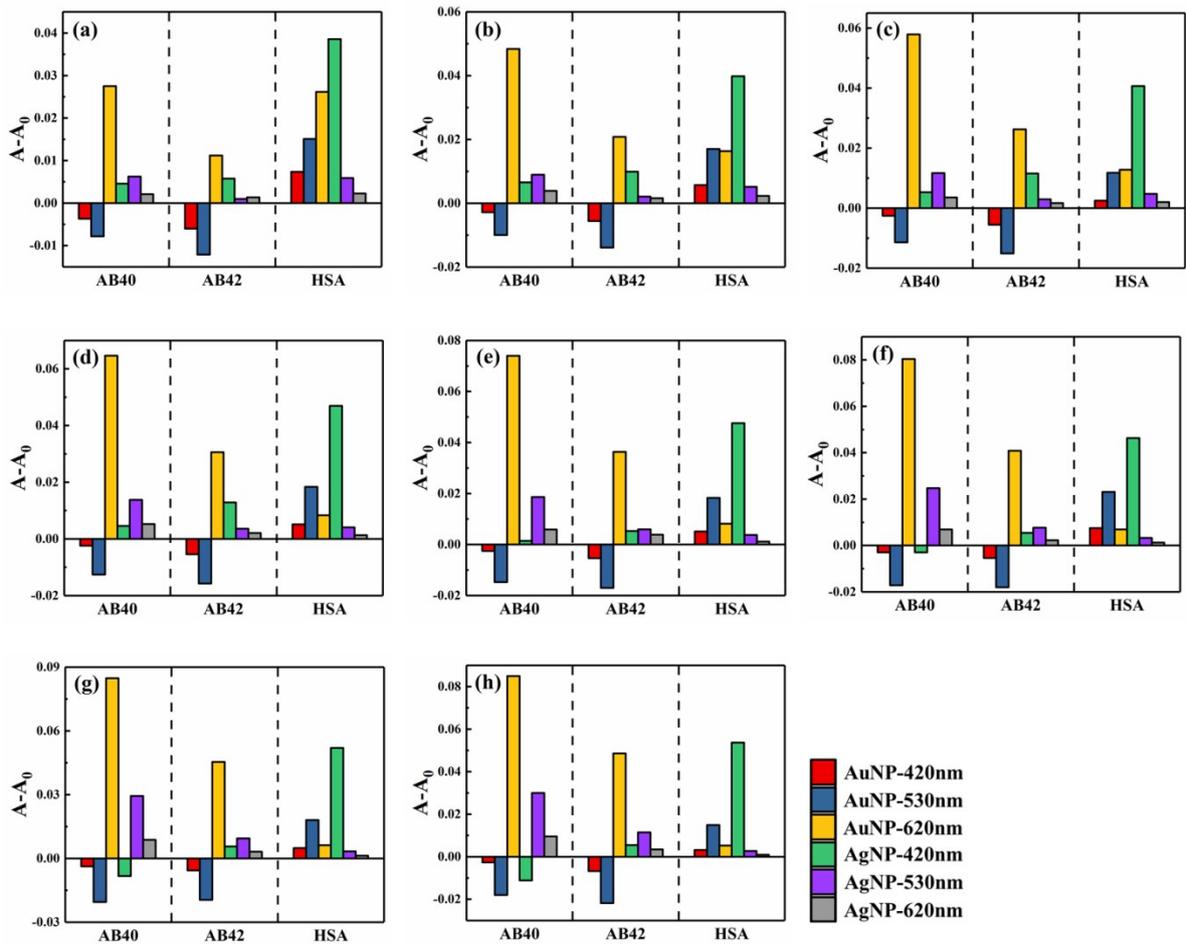
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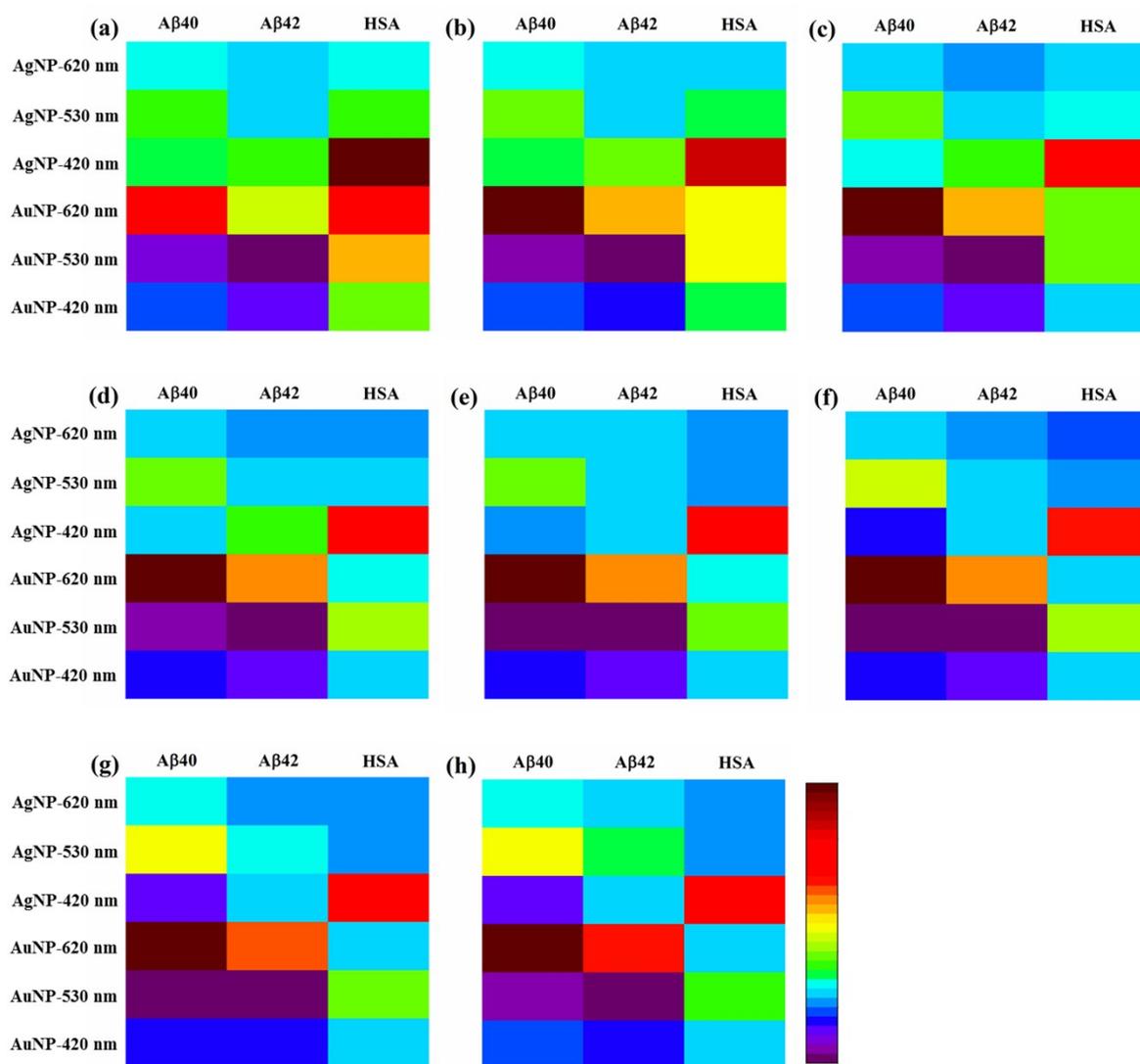
Fig. S9. Heat map of the absorbance response patterns for sensor elements against Aβ40, Aβ42 and HSA at concentrations (a) 50, (b) 75, (c) 100, (d) 150, (e) 200, (f) 300, (g) 400, and (h) 500 nmol L^{-1} at 3 wavelengths of 420, 530, 620 nm. In the rainbow color scale, a dark red is for the highest positive value and a dark purple is for the highest negative value.

Table S1. Leave-one-out analysis by Jackknifing in linear discriminant analysis. Each group contains 8 concentrations of analyte (Aβ40, Aβ42, and HSA) with 6 replicates.

	Predicted Group			
	Aβ40	Aβ42	HSA	Total
Aβ40	48	0	0	48
	100.00%	0.00%	0.00%	100.00%
Aβ42	0	48	0	48
	0.00%	100.00%	0.00%	100.00%
HSA	0	0	48	48
	0.00%	0.00%	100.00%	100.00%
Total	48	48	48	144
	33.33%	33.33%	33.33%	100.00%
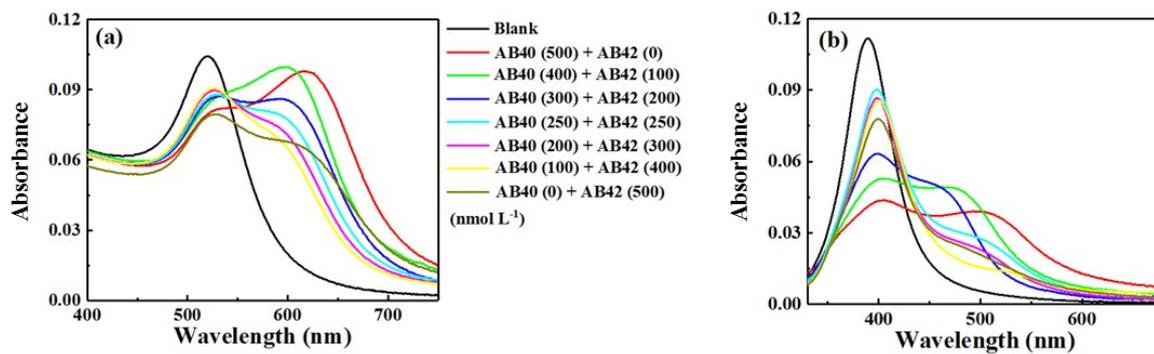
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Table S2. Leave-one-out analysis by Jackknifing in linear discriminant analysis. Each group contains one concentration of analyte with 6 replicates.

		Predicted Group							
		1	2	3	4	5	6	7	Total
1		6	0	0	0	0	0	0	6
		100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
2		0	6	0	0	0	0	0	6
		0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
3		0	0	6	0	0	0	0	6
		0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%
4		0	0	0	6	0	0	0	6
		0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%
5		0	0	0	0	6	0	0	6
		0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%
6		0	0	0	0	0	6	0	6
		0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%
7		0	0	0	0	0	0	6	6
		0.00%	0.00%	0.000%	0.00%	0.00%	0.00%	100.00%	100.00%
Total		6	6	6	6	6	6	6	42
		14.29%	14.29%	14.29%	14.29%	14.29%	14.29%	14.29%	100.00%
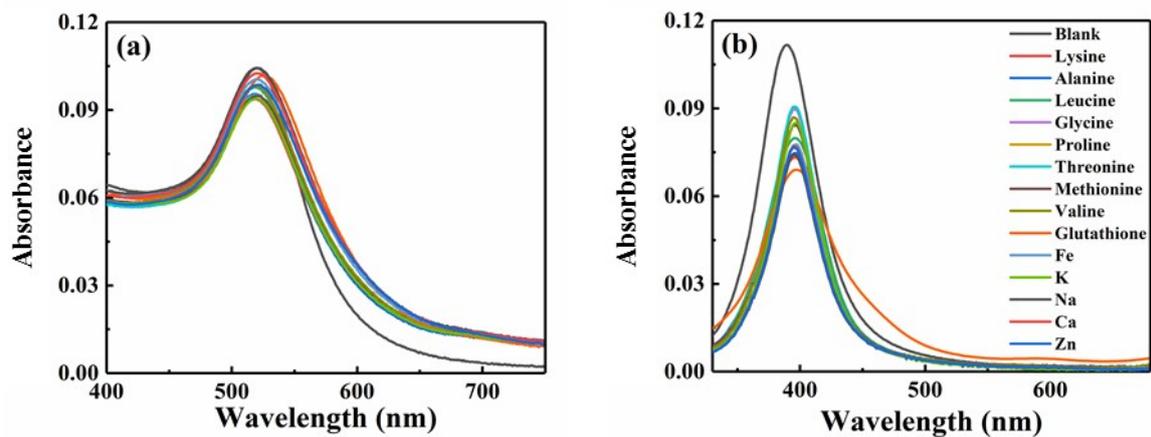
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Table S3. Leave-one-out analysis by Jackknifing in linear discriminant analysis. Each group contains analyte or interferences with 6 replicates.

	Predicted Group				
	Aβ40	**Aβ42**	**HSA**	**Interfereces**	**Total**
Aβ40	6	0	0	0	6
	100.00%	0.00%	0.00%	0.00%	100.00%
Aβ42	0	6	0	0	6
	0.00%	100.00%	0.00%	0.00%	100.00%
HSA	0	0	6	0	6
	0.00%	0.00%	100.00%	0.00%	100.00%
Interfereces	0	0	0	84	84
	0.00%	0.00%	0.00%	100.00%	100.00%
Total	6	6	6	84	102
	5.88%	5.88%	5.88%	82.35%	100.00%
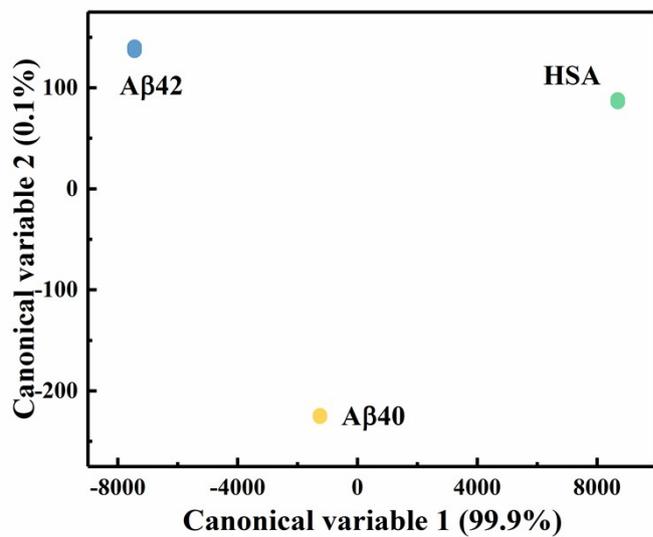
Fig. S12. Two-dimensional LDA plot clustering Aβ40, Aβ42, and HSA. Plasma was spiked with Aβ40, Aβ42 and HAS at concentrations of 500 nmol L^{-1}.