

Supporting information for

Canine parvovirus 2 detection by LSPR biosensing method with gold nanoparticles

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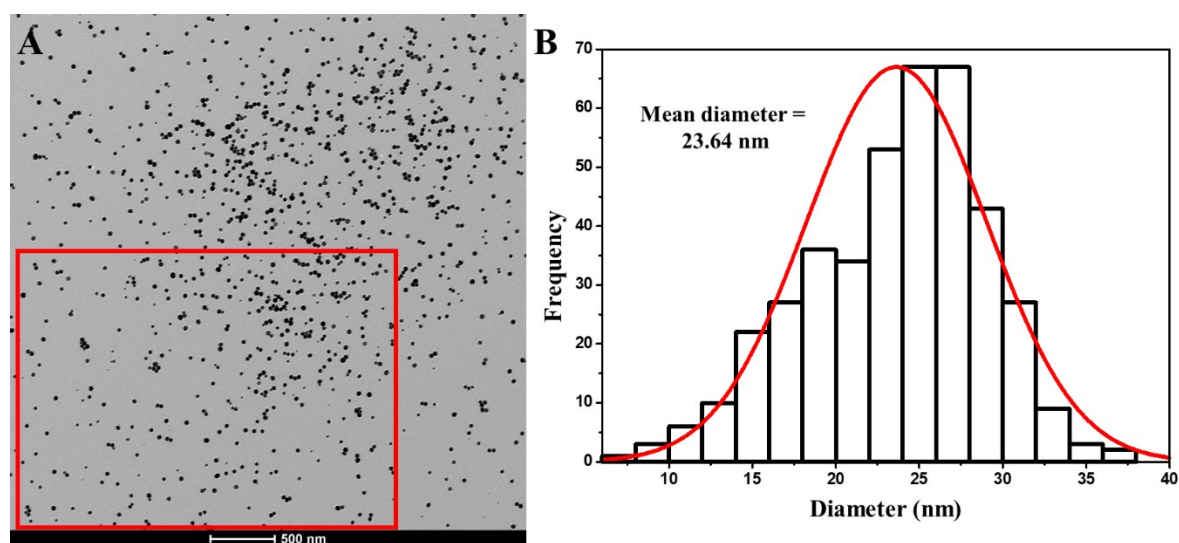


Fig. 1S AuNPs MET analyses. A) MET image at 500 nm scale. B) AuNPs diameter distribution histogram.

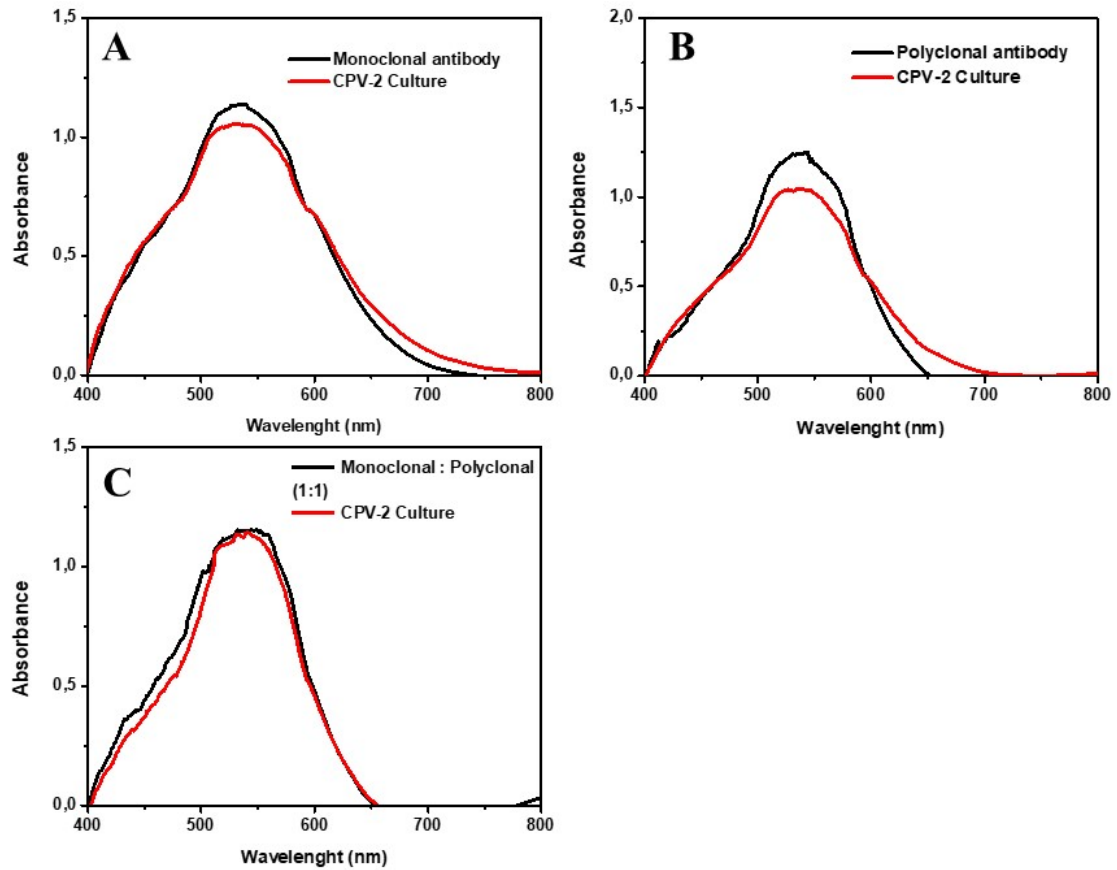


Fig. 2S UV-Vis spectrum analysis of the immunoglobulins and CPV-2 culture sample. A) UV-Vis graph of monoclonal immunoglobulin and viral culture sample. B) UV-Vis graph of polyclonal immunoglobulin and viral culture sample. C) UV-Vis graph of the combination of monoclonal and polyclonal immunoglobulins, and after the addition of the viral culture sample.

Table S1. Wavelength data of the 60 positive and five negative CPV-2 stool samples.

Sample	Monoclonal (2,5ug/mL)		Polyclonal (1:100)		Monoclonal : Polyclonal (1:1)	
	Wavelength (nm)	Difference* (nm)	Wavelength (nm)	Difference* (nm)	Wavelength (nm)	Difference* (nm)
1	533.55	2.57	535.19	2.01	535.01	2.96
2	534.37	3.39	540.14	6.96	537.02	4.97
3	538.4	7.42	538.57	5.39	545.71	13.66
4	534.37	3.39	535.56	2.38	537.38	5.33
5*	533.57	2.59	540.22	7.04	537.4	5.35
6	535.56	4.58	538.4	5.22	538.57	6.52
7	537.94	6.96	536.01	2.83	541.96	9.91
8†	537.21	6.23	536.93	3.75	540.95	8.9
9	546.17	15.18	543.33	9.97	536.9	5.01

10	534.37	3.02	535.17	2.76	533.5	2.24
11	533	2.01	537.39	4.03	542.15	10.26
12*	547.82	16.83	535.56	2.2	545.35	13.46
13	533.91	2.92	536.38	3.02	539.95	8.06
14	533.54	2.19	534.67	2.26	533.35	2.09
15	539.95	8.96	535.37	2.01	544.89	13
16	541.14	10.15	538.76	5.4	543.43	11.54
17	540.13	9.14	540.22	6.86	541.96	10.07
18	541.96	10.97	535.74	2.38	546.17	14.28
19	536.93	5.58	536.34	3.93	534.92	3.66
20°	550.83	19.48	542.79	9.61	541.23	8.51
21†	540.22	8.87	540.04	6.86	537.57	4.85
22	552.85	21.5	537.85	4.67	539.77	7.05
23	536.02	4.67	536.59	4.18	536.59	5.33
24	536.57	5.22	541.96	8.78	539.95	7.23
25	535.74	4.39	537.75	4.57	542.96	10.24
26	533.54	2.19	534.44	2.03	534.08	2.82
27	533.36	2.01	538.26	5.85	537.43	6.17
28	535.19	3.84	536.57	3.39	550.02	17.3
29†	541.23	9.88	536.93	3.75	538.21	5.49
30†	534.31	3.27	534.56	2.07	535.07	3.62
31	533.43	2.39	534.56	2.07	539.22	7.77
32	534.41	3.37	535.69	3.2	536.58	5.13
33	535.69	4.65	535.29	2.8	539.72	8.27
34	542.15	10.8	538.58	5.4	541.14	8.42
35	540.41	9.06	540.22	7.24	543.52	10.16
36	533.36	2.01	538.12	5.14	537.75	4.39
37	545.97	14.62	541.23	8.25	536.93	3.57
38	536.2	4.85	538.58	5.6	536.29	2.93
39	540.59	9.24	536.02	3.04	536.29	2.93
40	534	2.65	535.56	2.58	537.02	3.66
41	538.46	7.42	535.06	2.57	534.69	3.24
42	536.03	4.68	537.75	4.77	544.98	11.62
43	534.36	3.01	537.57	4.59	536.29	2.93
44	534.37	3.38	535.19	2.47	533.91	2.56
45	533.55	2.56	535.19	2.47	534.39	3.04
46	537.02	6.03	535.02	2.3	535.17	3.82
47	533.55	2.56	535.69	2.97	536.32	4.97
48	535.56	4.57	535.36	2.64	535.89	4.54

49	533.36	2.37	535.74	3.02	533.79	2.44
50	533.18	2.19	535.24	2.52	534.82	3.47
51	535.38	4.39	534.74	2.02	534.66	3.31
52	533.3	2.13	534.73	2.64	536.06	3.05
53	533.69	2.52	535.35	3.26	536.77	3.76
54	535.83	4.66	535.02	2.93	537.88	4.87
55	539.64	8.47	535.43	3.34	539.65	6.64
56	539.91	8.74	535.88	3.79	539.21	6.2
57	539.89	8.72	535.51	3.42	539.6	6.59
58	537.32	6.15	537.74	5.65	535.06	2.05
59	534.45	3.28	534.93	2.84	535.48	2.47
60	533.43	2.39	534.56	2.26	535.08	4.03
Neg 1	529.34	-2.01	531.58	-0.83	528.42	-2.84
Neg 2	529.24	-2.11	529.82	-2.59	530.49	-0.77
Neg 3	529.91	-1.13	531.89	-0.6	530.79	-0.66
Neg 4	528.78	-2.26	531.77	-0.72	529.28	-2.17
Neg 5	531.02	-0.02	530.79	-1.7	530.16	-1.29
PBS	530.16	-1.19	530.07	-2.34	528.98	-2.28

*Wavelength difference from respective values of the antibody step.

Neg = Negative samples

° PVC-2a

† PVC-2b

• PVC-2c

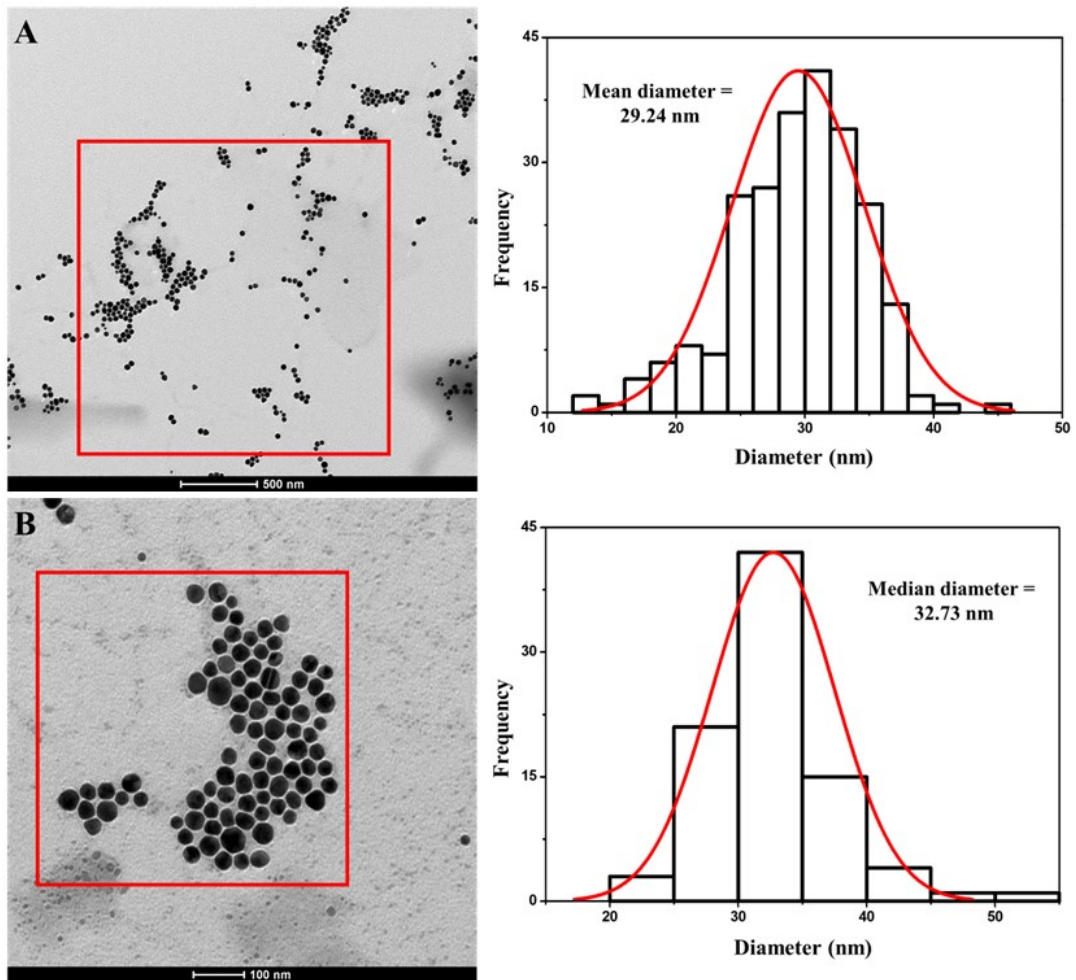


Fig. S3 TEM images and size analyses. A) AuNPs@MUA@EDC/NHS@immunoglobulins complex with at 500 nm scale and size analyses. B) AuNPs@MUA@EDC/NHS@immunoglobulins@parvovirus complex and size analyses.

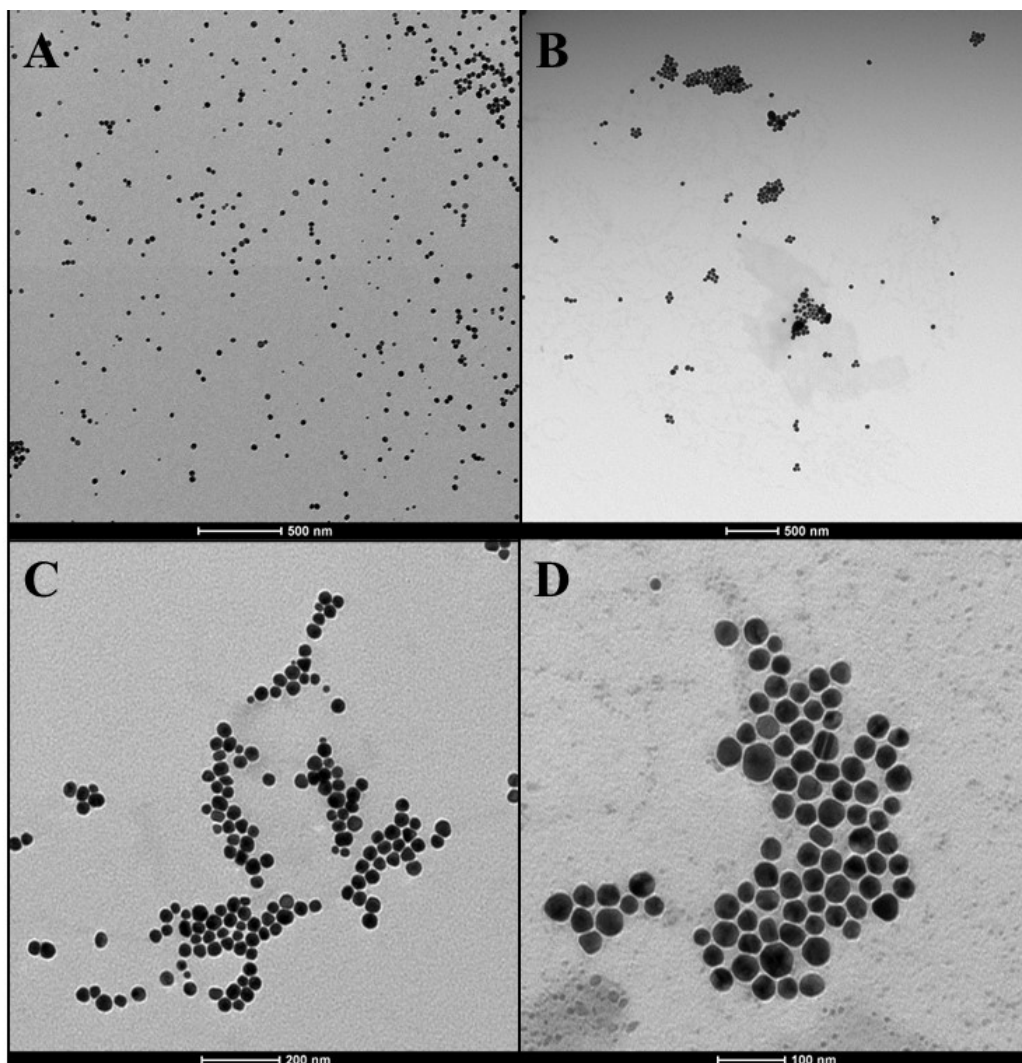


Fig. S4 MET images. A) AuNPs at 500 nm scale with approximately 23 nm in diameter. B) Formation step of the AuNPs@MUA@EDC/NHS complex at 500 nm scale. C) The complex AuNPs@MUA@EDC/NHS@immunoglobulins at 200 nm scale. D - Addition of a positive sample forming the complex AuNPs@MUA@EDC/NHS@immunoglobulins@parvovirus at 100 nm scale.