

Supporting information for

Role of novel silicon nanoparticles in luminescence detection of a family of antibiotics

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Figure Captions

Figure S1 Emission spectra of SiNPs upon addition of 50 nM - 50 μ M of OTC in PBS buffer solution (pH 7.4) under excitation at 350 nm. Inset: plot of fluorescence intensity decrease (F / F_0) versus the concentration of OTC.

Figure S2 Emission spectra of SiNPs upon addition of 50 nM - 50 μ M of CTC in PBS buffer solution (pH 7.4) under excitation at 350 nm. Inset: plot of fluorescence intensity decrease (F / F_0) versus the concentration of CTC.

Figure S3 Fluorescence intensity decrease (F / F_0) of SiNPs in the presence of 10 μ M TC, OTC, CTC, cefalexin, sulfamonomethoxine, penicillin and trimethoprim.

Figure S4 Fluorescence intensity decrease (F / F_0) of SiNPs in the presence of 10 μ M saccharides and amino acids.

Figure S5 Fluorescence intensity decrease (F / F_0) of SiNPs in the presence of 100 μ M anions and cations.

Figure S6 The fluorescence decay curves of SiNPs in the absence and presence of 10 μ M TC, OTC and CTC.

Figure S7 UV-vis absorption spectra of SiNPs in PBS solution (pH 7.4) in the absence and presence of 50 μ M TC.

Figure S8 UV-vis absorption spectra of TC and emission spectra SiNPs in PBS solution (pH =7.4) under excitation at 350 nm.

Table S1 Zeta potentials of SiNPs-1 and SiNPs-2 in the absence or presence of tetracyclines (10 μ M)

Table S2 Recoveries of OTC in supplemented milk detected by SiNPs as optical sensor.

Table S3 Recoveries of CTC in supplemented milk detected by SiNPs as optical sensor.

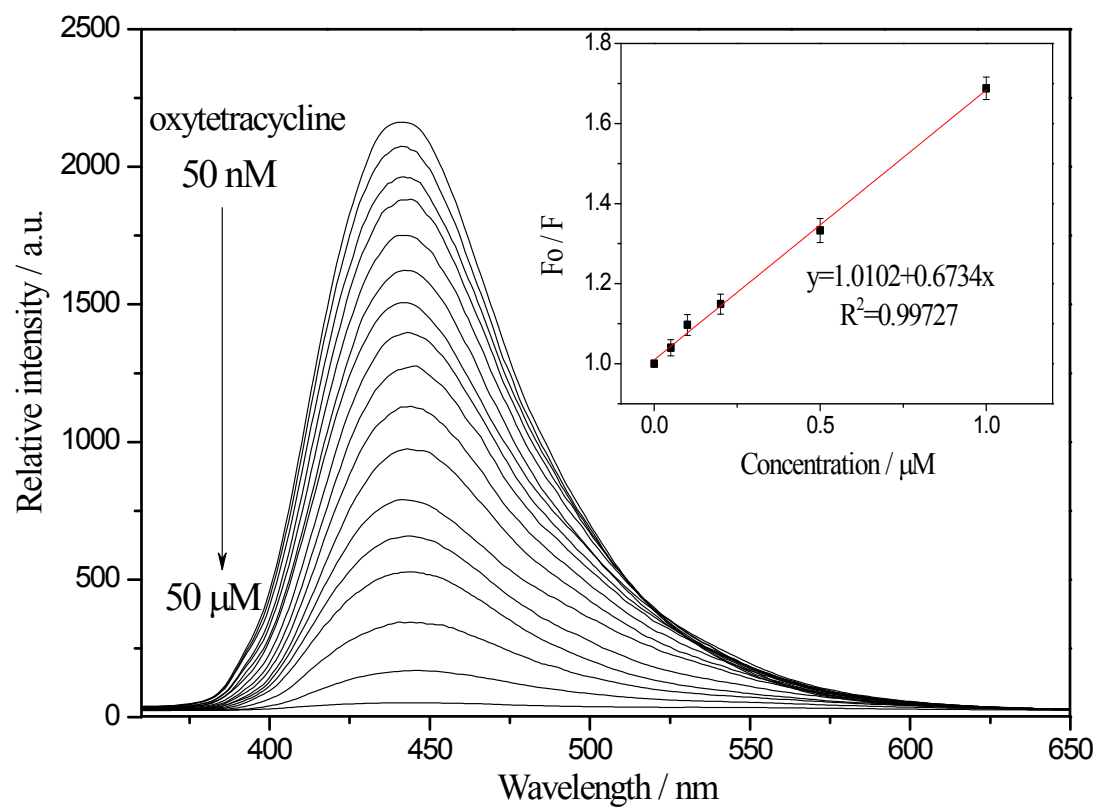


Figure S1

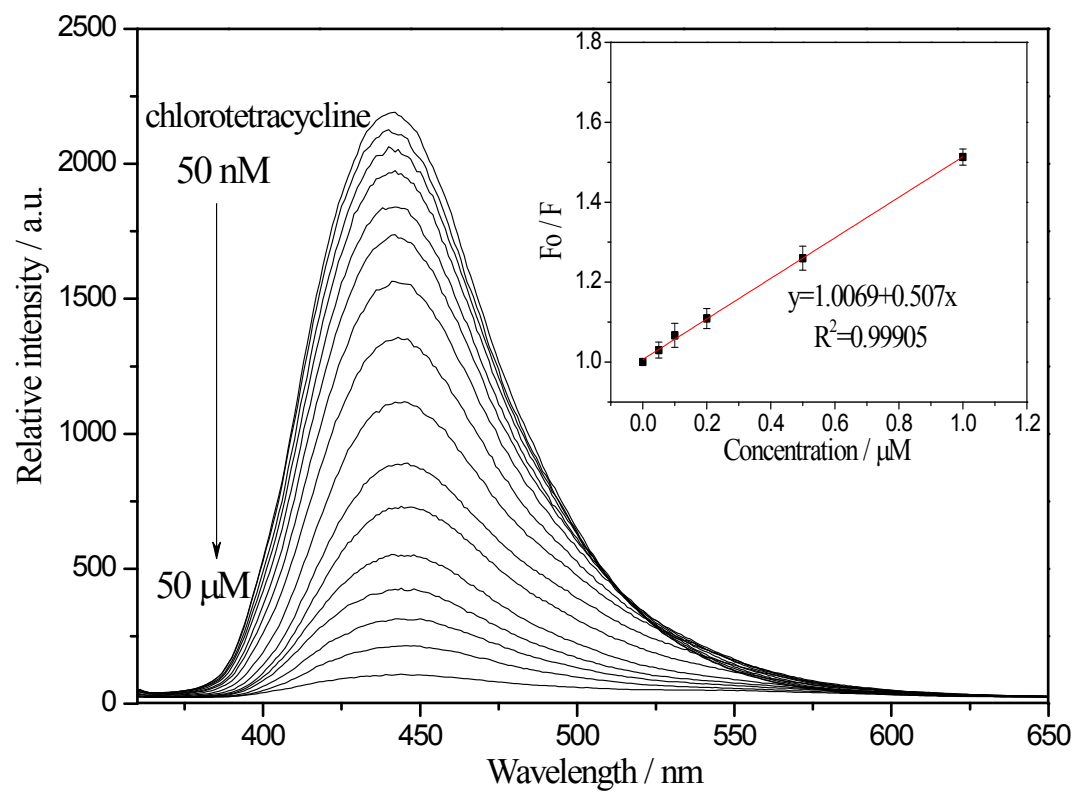


Figure S2

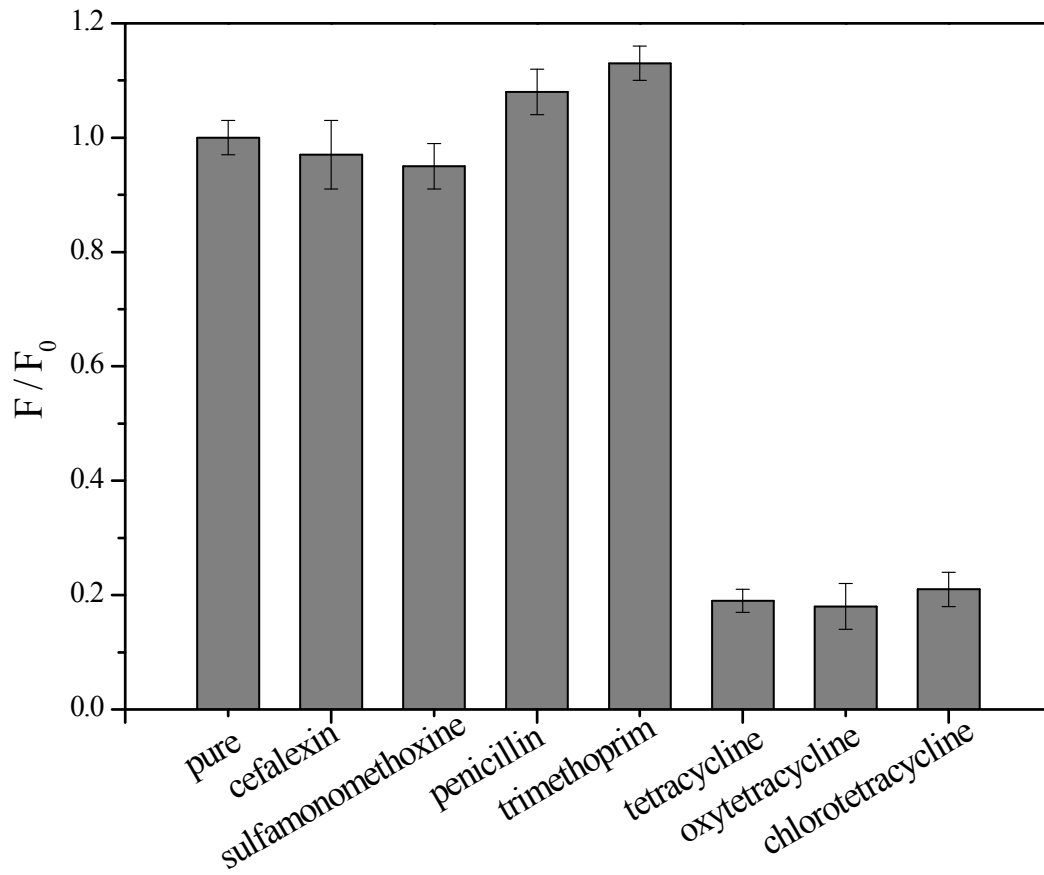


Figure S3

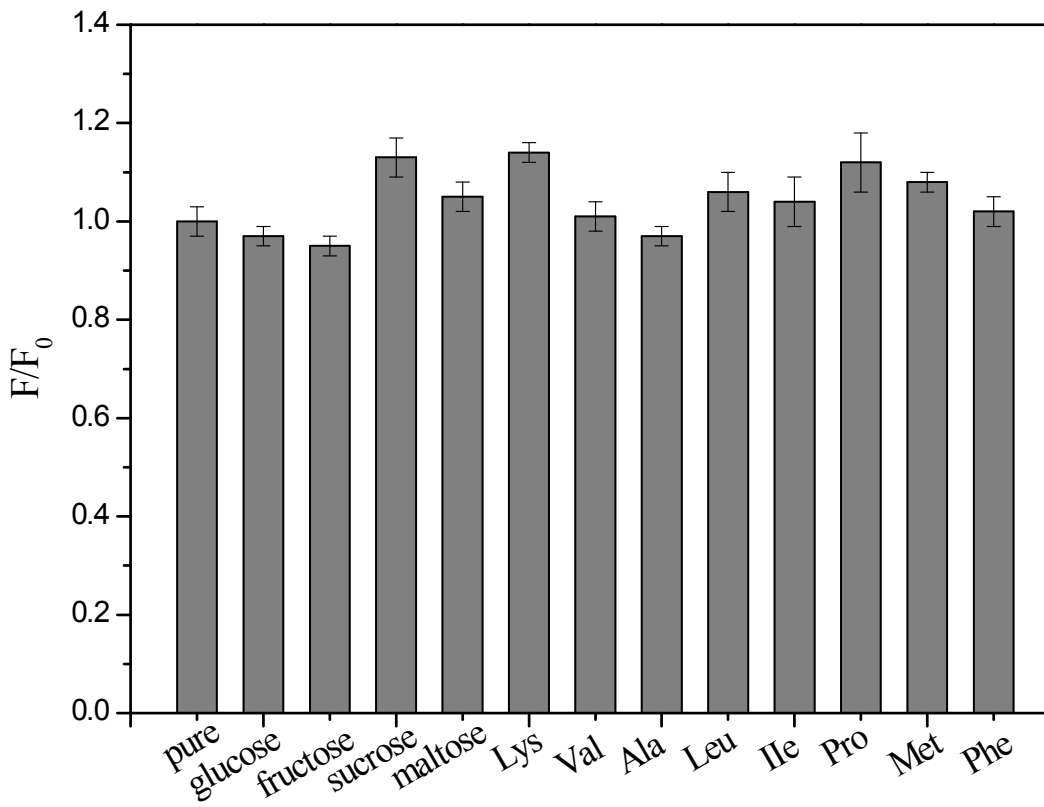


Figure S4

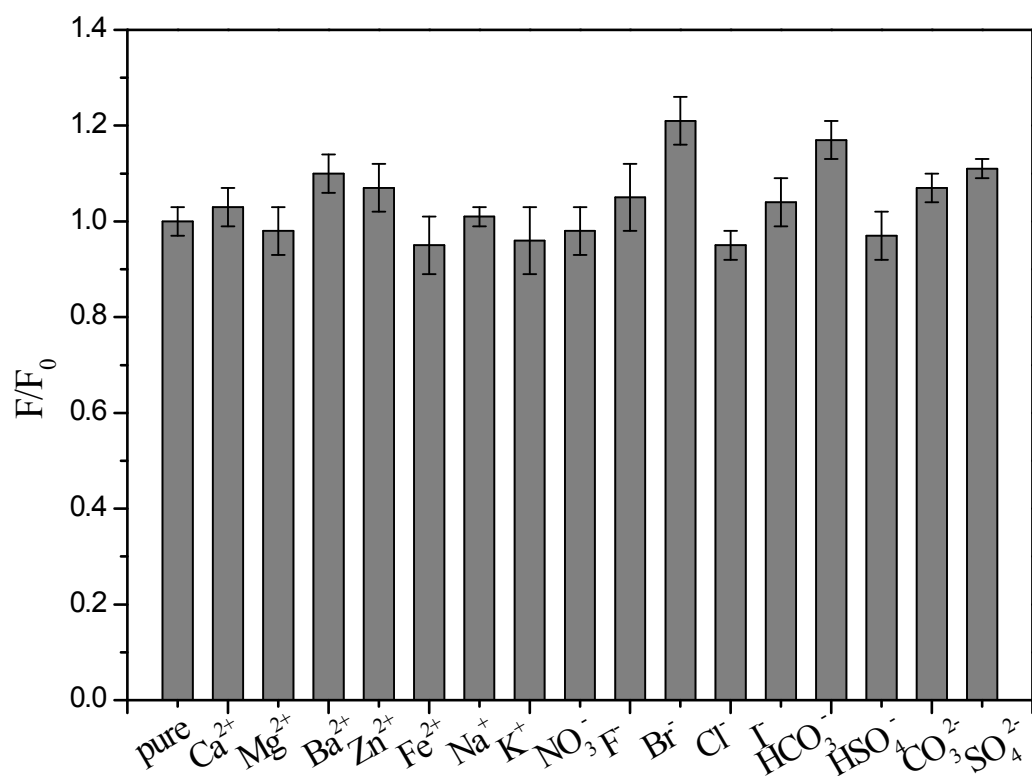


Figure S5

Table S1

	Before / mv	After / mv
SiNPs-1	-28.67±2.17	-19.37±1.56
SiNPs-2	-32.14.67±1.76	-21.37.67±1.12

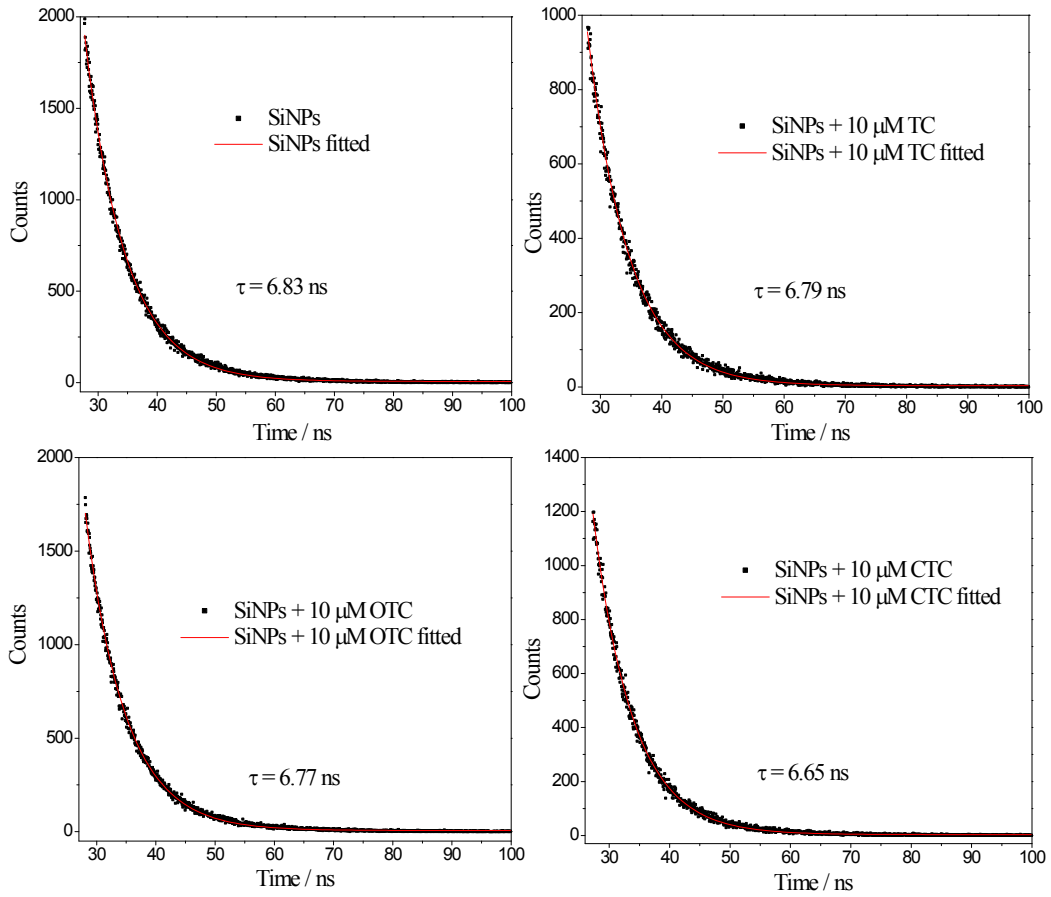


Figure S6

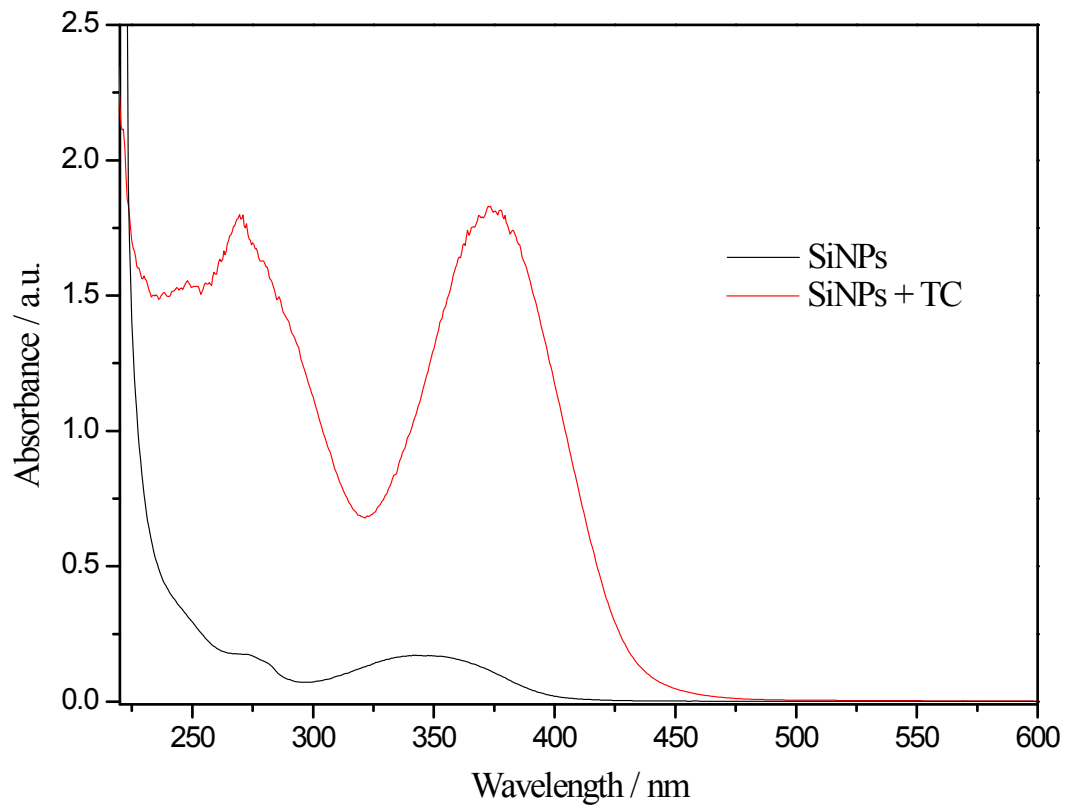


Figure S7

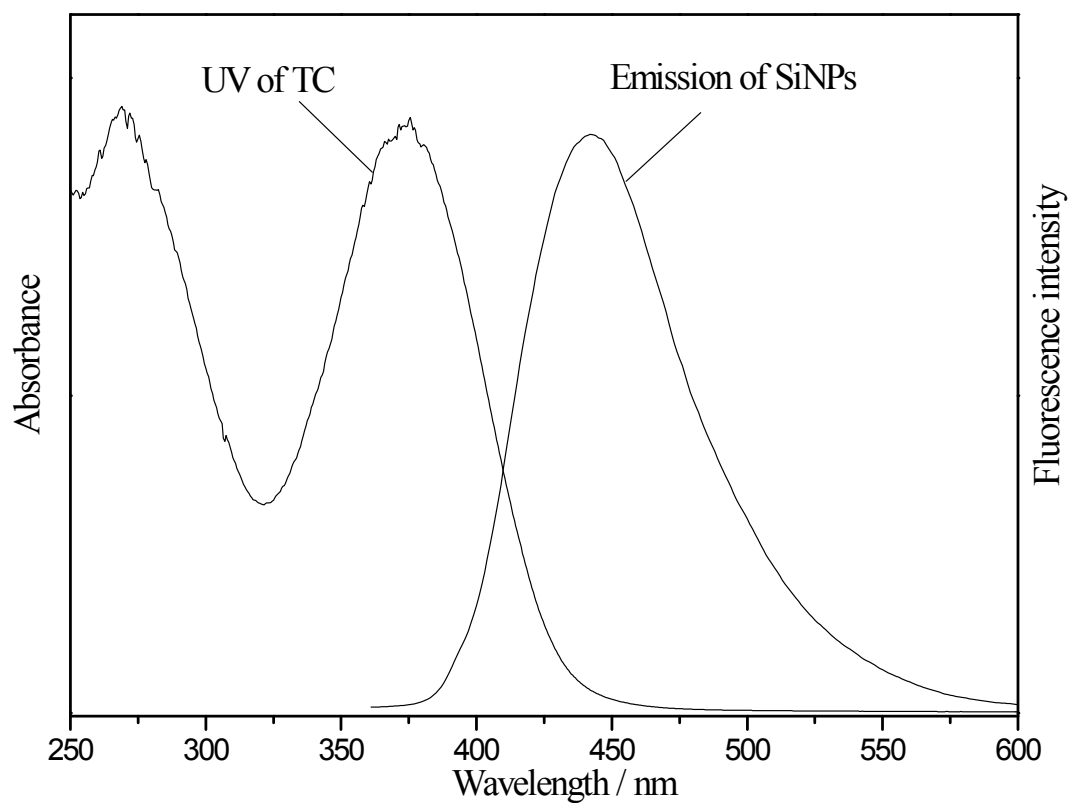


Figure S8

Table S2

Samples	OTC supplemented (μM)	OTC measured (μM)	Recovery (%)	RSD(% , n=3)
1	0.5	0.52	104.0	3.7
2	1	1.08	108.0	3.1
3	3	2.93	97.6	2.8
4	5	4.89	97.8	3.2

Table S3

Samples	CTC supplemented (μM)	CTC measured (μM)	Recovery (%)	RSD(% , n=3)
1	0.5	0.48	96.0	3.5
2	1	0.97	97.0	2.8
3	3	3.12	104.0	3.3
4	5	4.91	98.2	3.6