

Supporting Information

Small molecule interferences in resazurin and mtt-based metabolic assays in the absence of cells

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Figure S-4. MS data for five interfering species related to MTT assay.

Table S-1. Results from resazurin (R) and MTT (M) assays in the presence of the 19 species listed at six tested concentrations. The value displayed is the either the largest average deviation that occurred at some point during the four-hour reaction period or a statistically significant difference was not present when compared to the controls, as denoted by “ns” (n ≥ 3). Functional groups on each species are also displayed (T=thiol, An=amine, Ad=amide, A=acid, D=disulphide, Oh=alcohol).

		R	M	R	M	R	M	R	M	R	M	R	M
Sample	Functional Groups Present	1 μ M	10 μ M	100 μ M	1 mM	10 mM	100 mM						
1	T, An, Am, A	ns	-19	ns	23	ns	113	ns	2336	-50	2378	-91	234
2	An, Ad, D, A	ns	23	ns	25	ns	30	ns	37	-69	-16	-71	-16
3	T, An, A	ns	-22	ns	18	ns	20	ns	170	23	3670	51	1897
4	T, ad, ac	ns	-26	ns	16	ns	34	ns	130	ns	273	-83	221
5	T, a	ns	-26	ns	-25	ns	117	ns	585	-90	609	-97	296
6	T, ad, a	ns	-28	ns	-23	ns	45	ns	1113	ns	894	-95	130
7	An, d	ns	-28	ns	-27	ns	-25	ns	-22	ns	ns	ns	52
8	T, an, a	ns	-24	ns	-20	ns	108	13	861	59	3010	-47	1878
9	T, an, a	ns	ns	ns	ns	ns	94	ns	1699	ns	3558	161	3049
10	An	ns	ns	ns	-18	ns	-13	ns	20	25	57	ns	132
11	An	ns	ns	ns	ns	ns	14	7	ns	9	20	ns	43
12	An	ns	ns	ns	14	ns	13	9	11	ns	13	ns	14
13	D	ns	13	ns	12	ns	14	ns	13	ns	13	ns	13
14	T	ns	ns	ns	ns	ns	ns	6	ns	ns	27	ns	247
15	T	ns	19	ns	18	ns	15	ns	12	ns	17	ns	28
16	-	-11	ns	ns	9	-24	9	-23	ns	-24	12	ns	39
17	A, oh	ns	ns	ns	41	ns	249	45	3718	-83	4535	-96	1984
18	Oh	ns	ns	ns	ns	8	ns	11	ns	ns	15	ns	103
19	T, oh	ns	ns	ns	ns	ns	119	ns	2045	ns	4487	47	1838

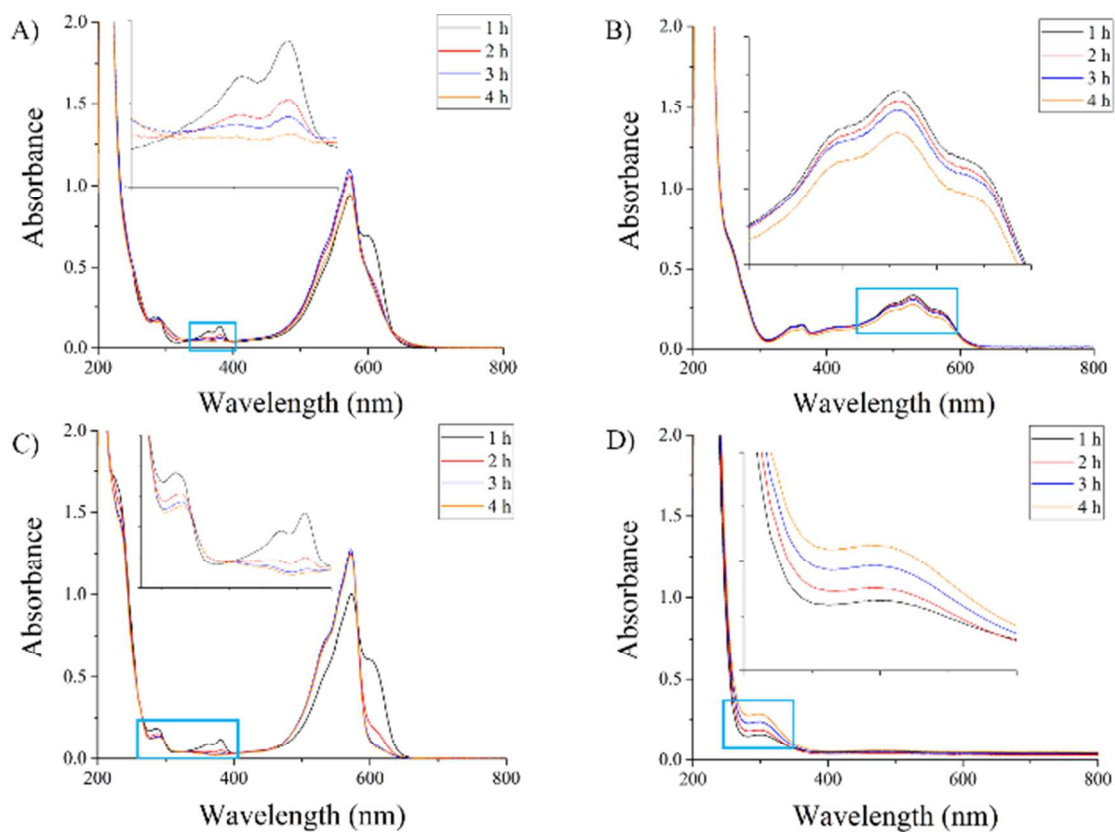


Figure S-1. UV-Vis spectra obtained for the four representative interfering species at 10 mM (A – glutathione (1); B – oxidized glutathione (2); C – D-Penicillamine (8); D – mercaptosuccinic acid (5)) in the presence of resazurin assay after each hour of incubation. Inset in each spectra shows zoomed in regions of initial spectra obtained from 200-800 nm.

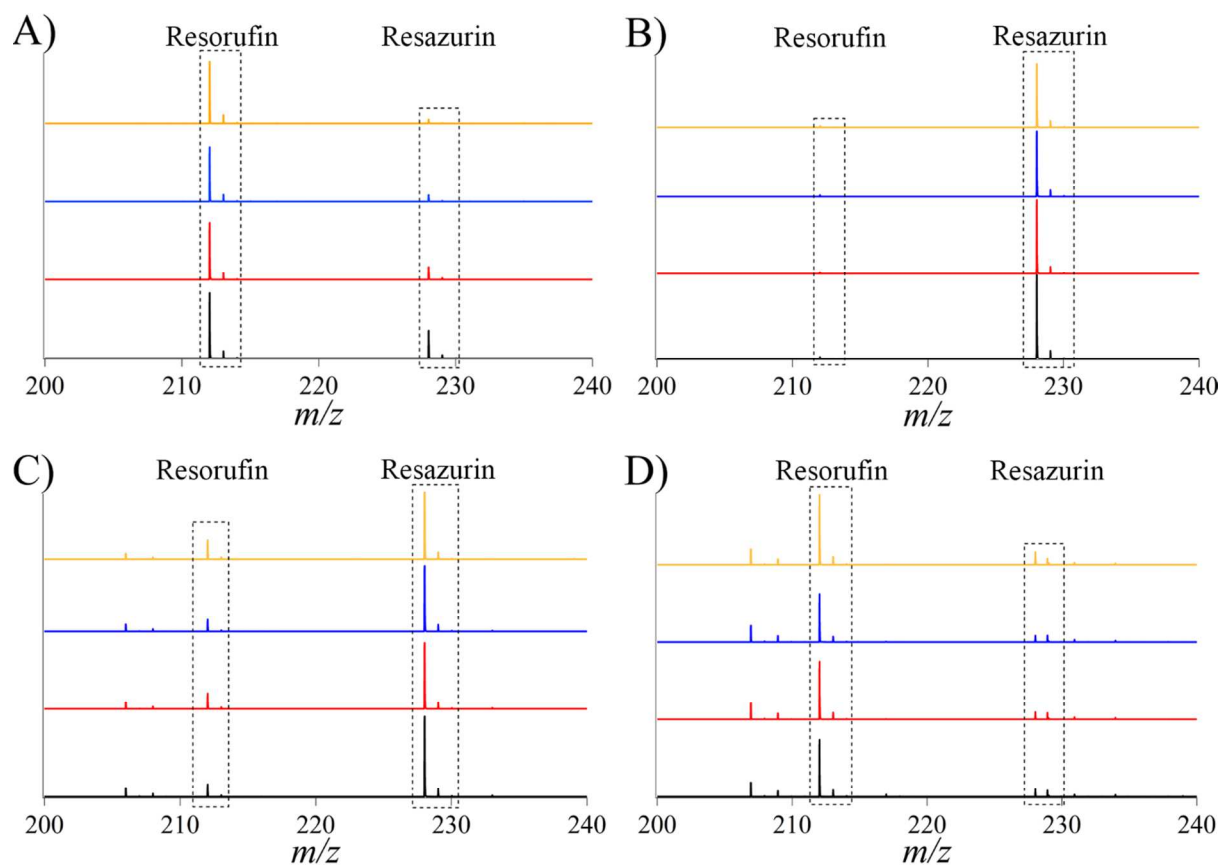


Figure S-2. Mass spectra obtained for the four representative interfering species at 10 mM (A – glutathione (1); B – oxidized glutathione (2); C – D-Penicillamine (8); D – mercaptosuccinic acid (5)) in the presence of resazurin assay after each hour of incubation. Plots are shown with increasing time on y-axis (hour 1 is black line – hour 4 is yellow line).

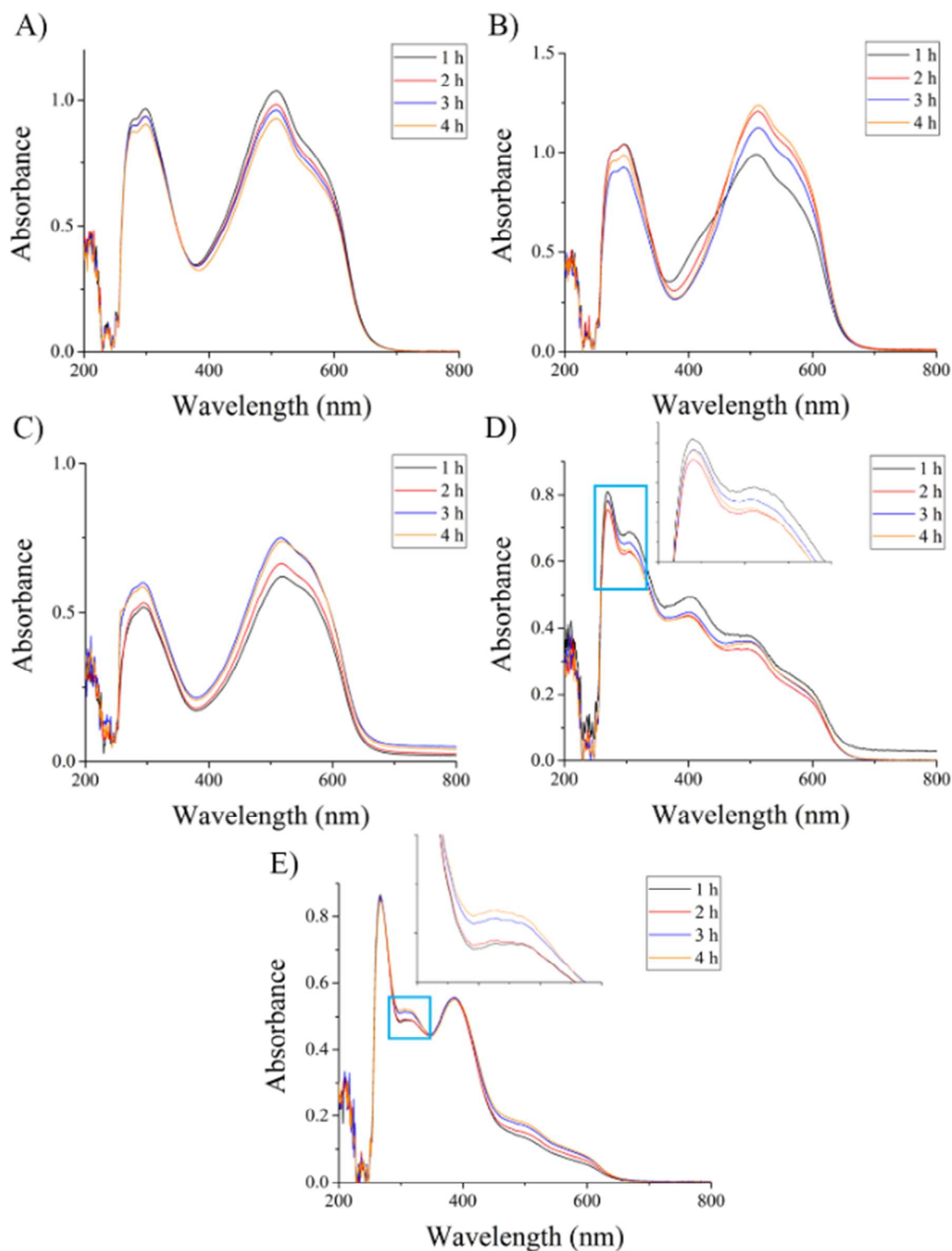


Figure S-3. UV-Vis spectra obtained for the five representative interfering species at 10 mM (A – glutathione (1); B – D-Penicillamine (8); C – L-Cysteine (3); D – mercaptosuccinic acid (5); E – N-Acetyl-D-penicillamine (4)) in the presence of MTT assay after each hour of incubation. Inset in each spectra shows zoomed in regions of initial spectra obtained from 200-800 nm.

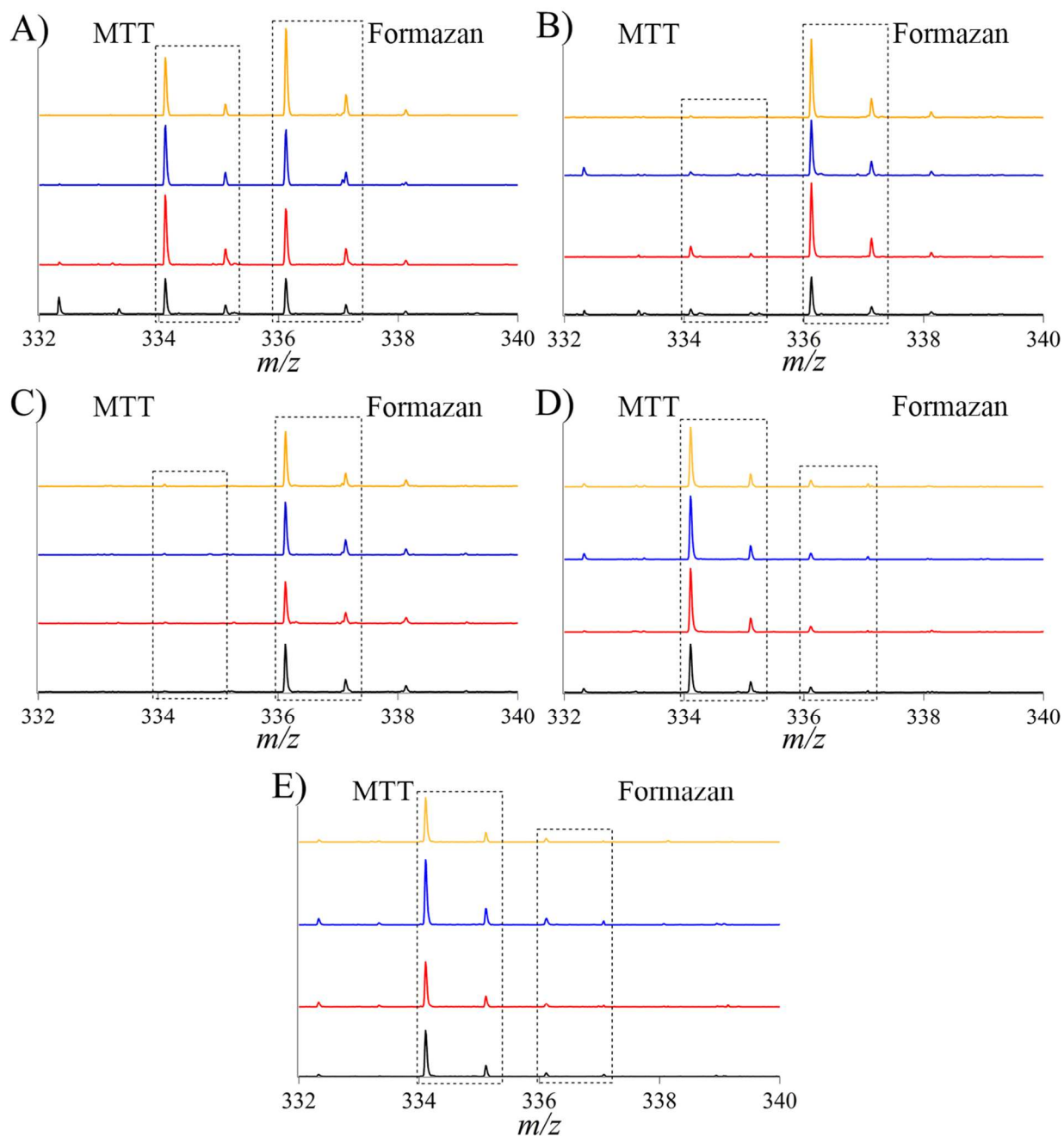


Figure S-4. Mass spectra obtained for the five representative interfering species at 10 mM (A – glutathione (**1**); B – D-Penicillamine (**8**); C – L-Cysteine (**3**); D – mercaptosuccinic acid (**5**); E – *N*-Acetyl-D-penicillamine (**4**) in the presence of MTT assay after each hour of incubation. Plots are shown with increasing time on y-axis (hour 1 is black line – hour 4 is yellow line).