

Supplemental Tables

**Click chemistry-facilitated structural diversification of nitrothiazoles,
nitrofurans and nitropyrroles enhances antimicrobial activity
against *Giardia lamblia***

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K. Barry Sharpless, Valery V. Fokin, Yukiko Miyamoto, and Lars Eckmann

Table S1. Alkynes used in study

Name	Structure	Name	Structure	Name	Structure
101		122		143	
102		123		144	
103		124		145	
104		125		146	
105		126		147	
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107		128		149	
108		129		150	
109		130		151	
110		131		152	

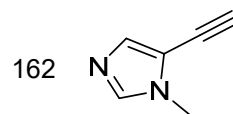
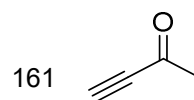
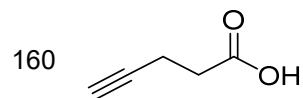
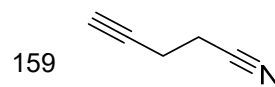
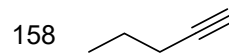
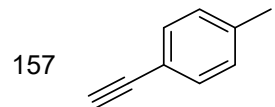
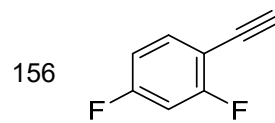
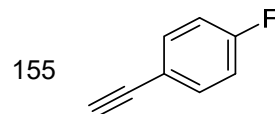
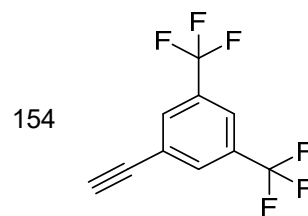
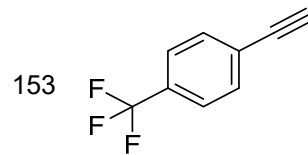
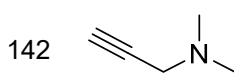
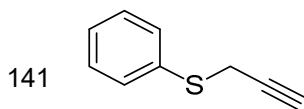
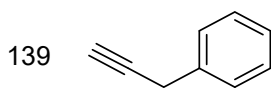
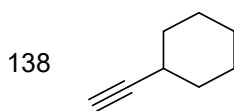
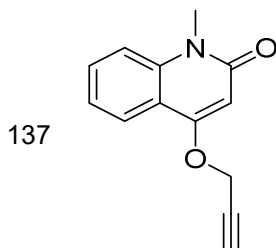
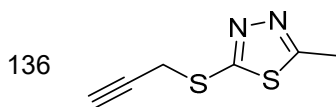
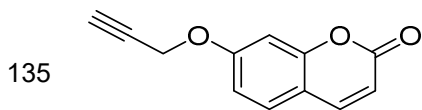
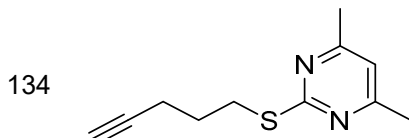
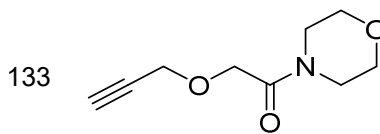
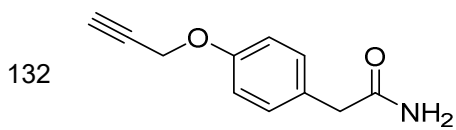
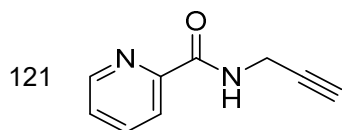
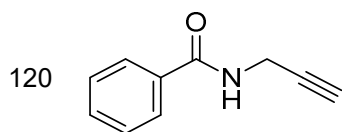
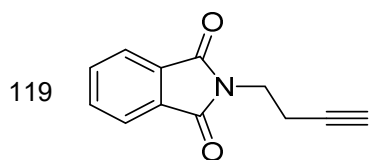
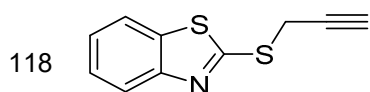
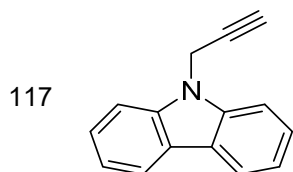
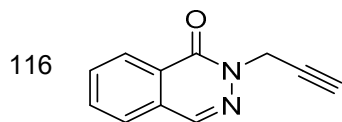
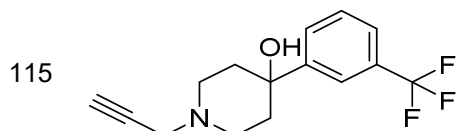
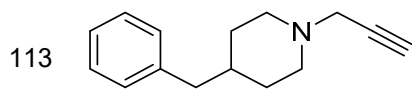
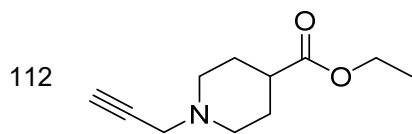
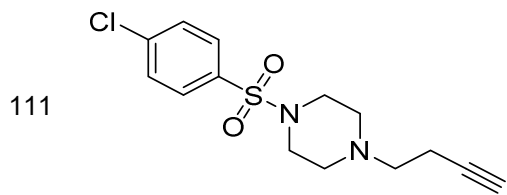


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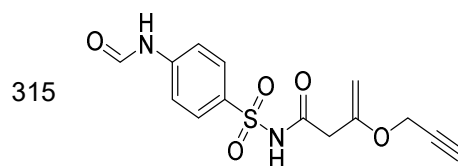
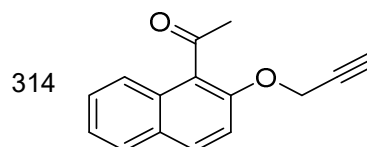
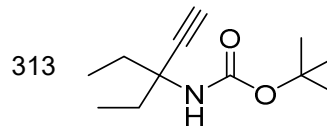
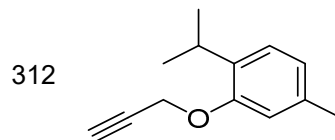
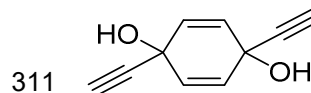
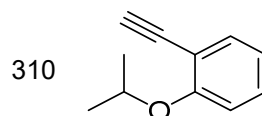
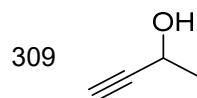
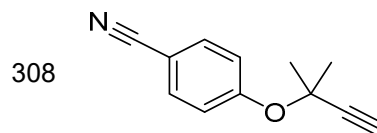
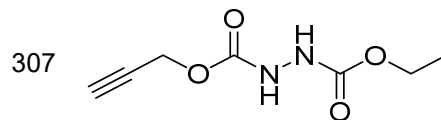
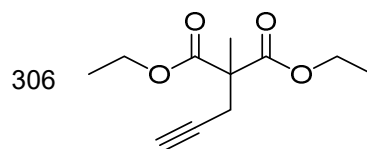
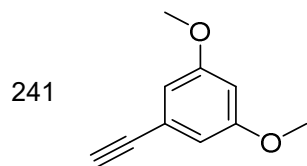
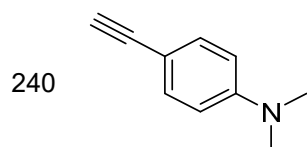
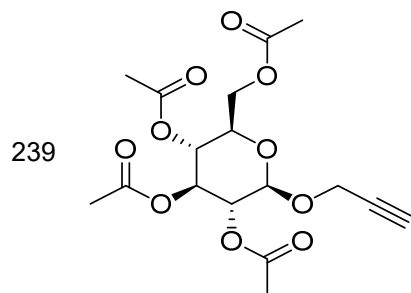
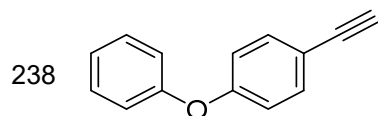
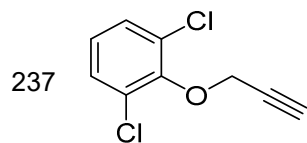
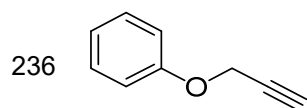
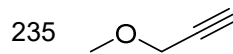
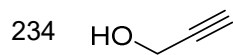
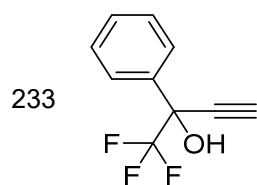
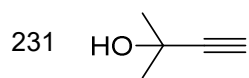
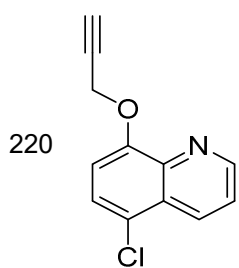
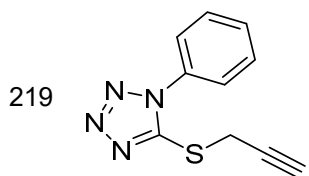
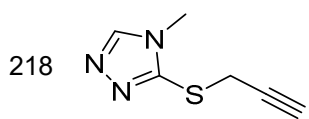
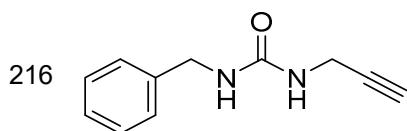
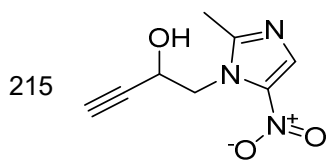
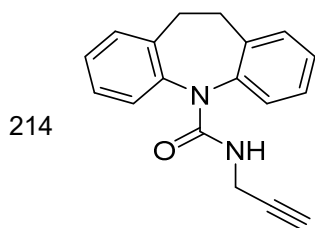
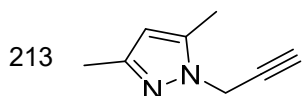
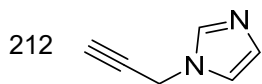
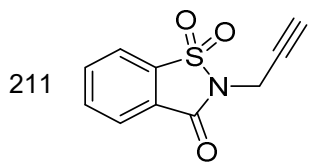
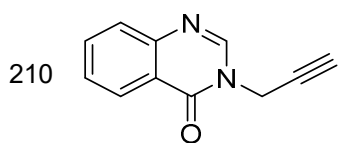
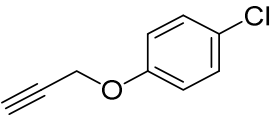
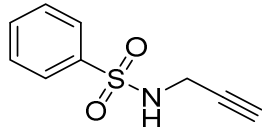
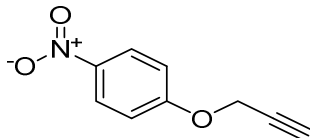
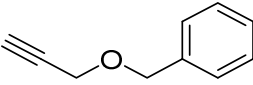
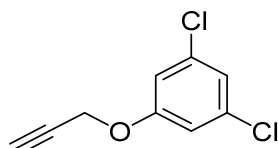
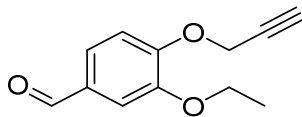
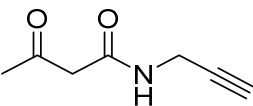
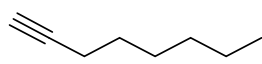
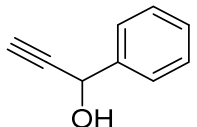
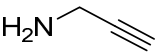
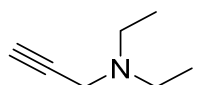
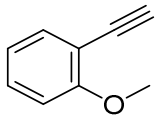
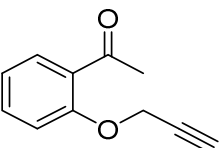
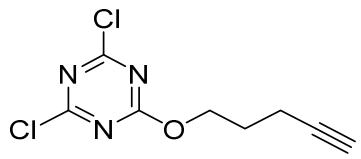
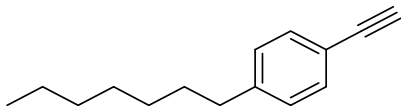
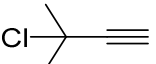
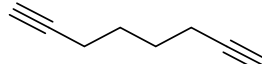
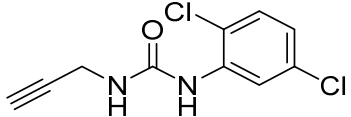
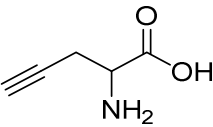
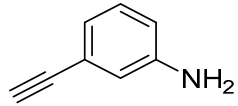
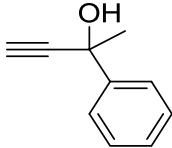
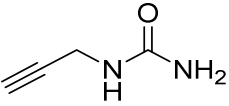
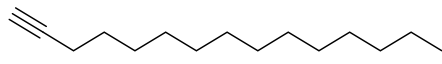
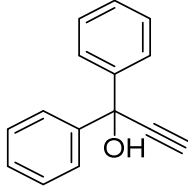
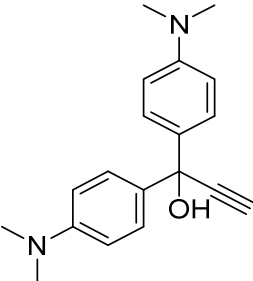
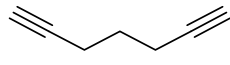
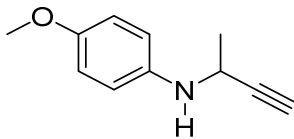


Table S1. Continued

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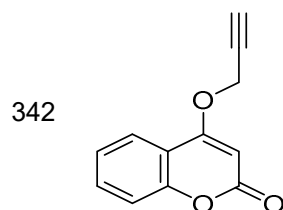
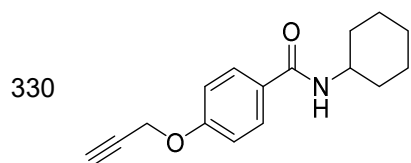
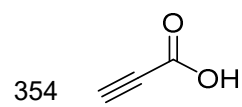
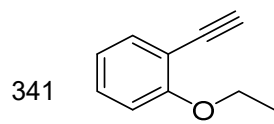
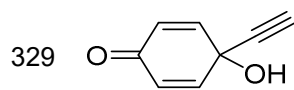
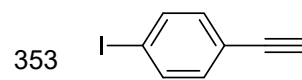
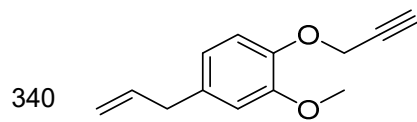
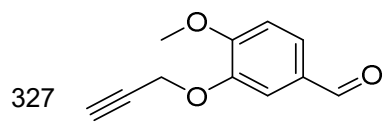


Table S2. Antigiardial activity and cytotoxicity of new nitrothiazoles

Name	Mz ^S <i>G. lamblia</i>				Mz ^R <i>G. lamblia</i>				HeLa	
	713		106		713M3		WB-M2		pCC50	CC50 (μM)
	pEC50	EC50 (μM)	pEC50	EC50 (μM)	pEC50	EC50 (μM)	pEC50	EC50 (μM)		
Ntz	5.55 ± 0.04	2.81	5.29 ± 0.18	5.12	4.66 ± 0.20	21.82	4.43 ± 0.09	37.11	< 4.30	> 50
G-101	6.53 ± 0.37	0.30	6.02 ± 0.18	0.95	5.32 ± 0.26	4.81	4.75 ± 0.03	17.95	< 4.30	> 50
G-103	6.41 ± 0.08	0.39	6.04 ± 0.17	0.92	5.76 ± 0.30	1.75	4.94 ± 0.07	11.43	< 4.30	> 50
G-104	7.18 ± 0.10	0.07	6.64 ± 0.18	0.23	5.81 ± 0.28	1.56	5.34 ± 0.09	4.59	< 4.30	> 50
G-105	6.12 ± 0.08	0.76	5.82 ± 0.18	1.52	5.33 ± 0.17	4.72	4.84 ± 0.05	14.32	< 4.30	> 50
G-107	5.99 ± 0.07	1.02	5.48 ± 0.06	3.31	5.49 ± 0.28	3.24	4.88 ± 0.04	13.26	< 4.30	> 50
G-108	6.60 ± 0.16	0.25	6.28 ± 0.24	0.52	5.59 ± 0.18	2.58	5.06 ± 0.09	8.71	< 4.30	> 50
G-109	5.94 ± 0.09	1.16	5.78 ± 0.07	1.65	5.53 ± 0.24	2.92	4.98 ± 0.02	10.47	< 4.30	> 50
G-110	5.72 ± 0.12	1.92	5.65 ± 0.14	2.25	5.51 ± 0.23	3.06	4.84 ± 0.05	14.52	< 4.30	> 50
G-111	5.60 ± 0.11	2.49	5.32 ± 0.20	4.81	5.22 ± 0.21	6.08	4.92 ± 0.08	12.13	< 4.30	> 50
G-112	6.80 ± 0.06	0.16	6.85 ± 0.18	0.14	5.95 ± 0.21	1.12	5.69 ± 0.07	2.07	< 4.30	> 50
G-113	6.26 ± 0.04	0.55	6.14 ± 0.11	0.72	5.60 ± 0.23	2.54	5.07 ± 0.11	8.59	< 4.30	> 50
G-115	5.94 ± 0.25	1.14	5.42 ± 0.20	3.83	5.37 ± 0.17	4.31	4.78 ± 0.08	16.53	< 4.30	> 50
G-116	6.48 ± 0.26	0.33	5.90 ± 0.18	1.27	5.49 ± 0.31	3.22	4.73 ± 0.03	18.54	< 4.30	> 50
G-118	6.42 ± 0.16	0.38	5.27 ± 0.14	5.37	5.29 ± 0.21	5.18	4.78 ± 0.05	16.60	< 4.30	> 50
G-119	7.21 ± 0.00	0.06	6.52 ± 0.18	0.30	5.76 ± 0.22	1.75	5.42 ± 0.05	3.83	< 4.30	> 50
G-120	5.90 ± 0.27	1.25	5.12 ± 0.22	7.63	5.38 ± 0.25	4.22	4.78 ± 0.05	16.66	< 4.30	> 50
G-121	6.88 ± 0.04	0.13	6.28 ± 0.21	0.52	5.54 ± 0.23	2.90	5.24 ± 0.07	5.73	< 4.30	> 50
G-122	6.46 ± 0.25	0.35	5.50 ± 0.09	3.14	5.36 ± 0.24	4.39	4.84 ± 0.05	14.62	< 4.30	> 50
G-123	7.08 ± 0.04	0.08	6.72 ± 0.21	0.19	5.90 ± 0.14	1.25	5.40 ± 0.07	4.00	< 4.30	> 50
G-124	6.96 ± 0.20	0.11	6.62 ± 0.22	0.24	6.00 ± 0.21	1.00	5.76 ± 0.09	1.74	< 4.30	> 50
G-128	6.33 ± 0.30	0.47	5.15 ± 0.25	7.13	4.93 ± 0.10	11.75	4.79 ± 0.04	16.28	< 4.30	> 50
G-129	6.90 ± 0.47	0.12	7.15 ± 0.13	0.07	6.38 ± 0.22	0.42	5.71 ± 0.15	1.95	< 4.30	> 50
G-131	6.54 ± 0.45	0.29	6.85 ± 0.19	0.14	7.13 ± 0.25	0.07	5.40 ± 0.25	4.03	< 4.30	> 50
G-132	6.76 ± 0.26	0.17	6.58 ± 0.20	0.26	5.83 ± 0.18	1.47	5.29 ± 0.08	5.17	< 4.30	> 50
G-133	6.94 ± 0.31	0.11	6.07 ± 0.15	0.86	5.65 ± 0.17	2.24	5.27 ± 0.12	5.35	< 4.30	> 50
G-134	6.63 ± 0.04	0.23	6.53 ± 0.19	0.30	5.99 ± 0.21	1.02	5.17 ± 0.11	6.79	< 4.30	> 50
G-135	5.94 ± 0.21	1.15	5.92 ± 0.27	1.19	5.35 ± 0.23	4.44	4.85 ± 0.05	14.29	< 4.30	> 50
G-136	6.08 ± 0.08	0.84	5.86 ± 0.10	1.40	5.78 ± 0.22	1.67	5.02 ± 0.13	9.48	< 4.30	> 50
G-137	6.05 ± 0.09	0.90	6.09 ± 0.11	0.82	6.30 ± 0.25	0.50	4.94 ± 0.11	11.57	< 4.30	> 50
G-138	7.20 ± 0.07	0.06	5.84 ± 0.19	1.44	5.34 ± 0.26	4.61	4.90 ± 0.03	12.59	< 4.30	> 50
G-139	6.27 ± 0.56	0.54	6.25 ± 0.11	0.56	5.88 ± 0.21	1.32	5.47 ± 0.11	3.41	< 4.30	> 50
G-141	6.88 ± 0.08	0.13	5.79 ± 0.11	1.61	5.19 ± 0.23	6.43	4.86 ± 0.03	13.68	< 4.30	> 50
G-143	6.99 ± 0.11	0.10	6.56 ± 0.15	0.27	5.76 ± 0.23	1.75	5.19 ± 0.06	6.49	< 4.30	> 50
G-144	6.67 ± 0.22	0.21	6.16 ± 0.11	0.70	5.40 ± 0.16	3.98	4.98 ± 0.02	10.57	< 4.30	> 50
G-145	6.39 ± 0.31	0.40	5.75 ± 0.05	1.76	5.55 ± 0.28	2.82	5.22 ± 0.22	6.08	< 4.30	> 50
G-146	6.19 ± 0.26	0.65	5.42 ± 0.11	3.82	5.46 ± 0.25	3.47	4.77 ± 0.05	16.83	< 4.30	> 50
G-147	6.95 ± 0.11	0.11	6.30 ± 0.17	0.50	5.38 ± 0.19	4.15	5.00 ± 0.06	9.95	< 4.30	> 50
G-148	7.06 ± 0.17	0.09	5.90 ± 0.13	1.26	5.34 ± 0.20	4.57	4.83 ± 0.06	14.66	< 4.30	> 50
G-149	7.17 ± 0.03	0.07	6.11 ± 0.12	0.78	5.53 ± 0.15	2.95	4.99 ± 0.07	10.14	< 4.30	> 50
G-150	7.52 ± 0.25	0.03	7.00 ± 0.28	0.10	6.27 ± 0.23	0.54	6.33 ± 0.27	0.47	< 4.30	> 50
G-151	5.74 ± 0.07	1.81	5.18 ± 0.21	6.56	5.49 ± 0.28	3.22	< 4.70	> 20	< 4.30	> 50
G-152	7.13 ± 0.10	0.07	6.16 ± 0.09	0.69	5.56 ± 0.17	2.73	5.00 ± 0.06	9.95	< 4.30	> 50
G-153	7.08 ± 0.14	0.08	6.43 ± 0.26	0.37	5.92 ± 0.24	1.19	5.47 ± 0.10	3.40	< 4.30	> 50
G-154	7.20 ± 0.40	0.06	6.86 ± 0.20	0.14	6.08 ± 0.27	0.83	5.55 ± 0.08	2.84	< 4.30	> 50
G-155	7.42 ± 0.31	0.04	6.77 ± 0.17	0.17	6.18 ± 0.26	0.66	5.87 ± 0.13	1.35	4.47 ± 0.06	34
G-156	6.79 ± 0.21	0.16	6.14 ± 0.07	0.73	5.47 ± 0.22	3.40	5.15 ± 0.07	7.05	< 4.30	> 50
G-159	6.75 ± 0.40	0.18	5.81 ± 0.09	1.56	5.33 ± 0.25	4.68	4.91 ± 0.05	12.30	< 4.30	> 50
G-160	7.19 ± 0.51	0.06	6.54 ± 0.07	0.29	5.59 ± 0.25	2.56	5.33 ± 0.02	4.66	< 4.30	> 50

G-161	7.12 ± 0.05	0.08	6.89 ± 0.15	0.13	5.92 ± 0.19	1.21	5.40 ± 0.11	3.96	< 4.30	> 50
G-162	6.92 ± 0.01	0.12	5.84 ± 0.16	1.43	5.23 ± 0.20	5.86	4.87 ± 0.13	13.55	< 4.30	> 50
G-163	6.64 ± 0.18	0.23	6.54 ± 0.07	0.29	5.54 ± 0.25	2.86	5.23 ± 0.08	5.96	< 4.30	> 50
G-202	5.85 ± 0.10	1.40	5.77 ± 0.14	1.72	5.57 ± 0.19	2.68	4.75 ± 0.05	17.92	< 4.30	> 50
G-203	5.86 ± 0.04	1.38	5.77 ± 0.06	1.70	5.56 ± 0.25	2.74	4.81 ± 0.06	15.67	< 4.30	> 50
G-204	7.10 ± 0.13	0.08	6.41 ± 0.18	0.39	5.66 ± 0.21	2.17	5.34 ± 0.04	4.54	< 4.30	> 50
G-205	6.30 ± 0.15	0.50	5.95 ± 0.11	1.12	5.44 ± 0.15	3.65	5.03 ± 0.06	9.38	< 4.30	> 50
G-206	5.91 ± 0.08	1.22	6.03 ± 0.11	0.93	6.19 ± 0.18	0.65	5.12 ± 0.10	7.59	< 4.30	> 50
G-207	6.34 ± 0.74	0.46	6.07 ± 0.10	0.86	5.63 ± 0.28	2.36	5.02 ± 0.03	9.62	< 4.30	> 50
G-208	6.39 ± 0.08	0.41	5.62 ± 0.34	2.39	5.48 ± 0.22	3.34	4.77 ± 0.04	17.05	< 4.30	> 50
G-209	5.61 ± 0.13	2.44	4.99 ± 0.18	10.15	5.36 ± 0.18	4.35	4.80 ± 0.06	15.85	< 4.30	> 50
G-210	6.18 ± 0.30	0.67	5.99 ± 0.21	1.02	5.38 ± 0.19	4.14	4.74 ± 0.03	18.37	< 4.30	> 50
G-211	5.88 ± 0.09	1.33	5.07 ± 0.26	8.58	5.25 ± 0.27	5.59	< 4.70	> 20	< 4.30	> 50
G-212	6.38 ± 0.19	0.41	6.33 ± 0.22	0.47	5.48 ± 0.20	3.28	5.03 ± 0.07	9.30	< 4.30	> 50
G-213	7.34 ± 0.32	0.05	6.65 ± 0.09	0.22	5.64 ± 0.21	2.30	5.18 ± 0.05	6.61	< 4.30	> 50
G-215	7.12 ± 0.06	0.08	6.59 ± 0.15	0.26	6.11 ± 0.20	0.78	5.83 ± 0.06	1.47	< 4.30	> 50
G-216	5.78 ± 0.00	1.66	< 4.70	> 20	4.93 ± 0.18	11.80	< 4.70	> 20	< 4.30	> 50
G-217	5.73 ± 0.11	1.86	5.25 ± 0.15	5.69	5.13 ± 0.17	7.38	4.75 ± 0.03	17.99	< 4.30	> 50
G-218	5.76 ± 0.17	1.74	5.44 ± 0.14	3.67	5.32 ± 0.16	4.74	4.83 ± 0.09	14.66	< 4.30	> 50
G-219	7.15 ± 0.42	0.07	6.34 ± 0.07	0.46	5.92 ± 0.20	1.22	5.09 ± 0.07	8.13	< 4.30	> 50
G-220	6.21 ± 0.20	0.62	5.23 ± 0.23	5.84	5.38 ± 0.35	4.19	4.72 ± 0.02	19.28	< 4.30	> 50
G-221	6.04 ± 0.12	0.91	5.41 ± 0.06	3.87	5.27 ± 0.21	5.35	4.87 ± 0.04	13.37	< 4.30	> 50
G-222	8.14 ± 0.13	0.01	6.36 ± 0.14	0.44	5.79 ± 0.31	1.62	5.59 ± 0.09	2.55	4.31 ± 0.02	49
G-223	6.03 ± 0.15	0.93	5.71 ± 0.15	1.95	5.25 ± 0.18	5.57	4.95 ± 0.06	11.22	< 4.30	> 50
G-224	7.62 ± 0.39	0.02	6.70 ± 0.31	0.20	6.02 ± 0.21	0.96	5.87 ± 0.05	1.36	< 4.30	> 50
G-225	6.59 ± 0.16	0.26	5.58 ± 0.13	2.63	5.31 ± 0.24	4.87	4.83 ± 0.05	14.79	< 4.30	> 50
G-226	7.16 ± 0.12	0.07	6.07 ± 0.09	0.86	5.42 ± 0.19	3.84	5.05 ± 0.09	8.95	< 4.30	> 50
G-227	7.48 ± 0.17	0.03	6.37 ± 0.10	0.43	5.36 ± 0.22	4.39	5.25 ± 0.10	5.57	< 4.30	> 50
G-228	7.95 ± 0.07	0.01	5.82 ± 0.14	1.50	5.05 ± 0.17	8.87	4.85 ± 0.06	14.04	< 4.30	> 50
G-229	6.65 ± 0.12	0.22	5.98 ± 0.14	1.06	5.76 ± 0.22	1.75	5.10 ± 0.06	8.02	< 4.30	> 50
G-230	7.16 ± 0.11	0.07	6.45 ± 0.05	0.35	5.86 ± 0.25	1.37	5.45 ± 0.13	3.55	< 4.30	> 50
G-231	6.11 ± 0.19	0.77	6.02 ± 0.17	0.96	5.52 ± 0.20	3.04	5.00 ± 0.08	10.09	< 4.30	> 50
G-232	6.44 ± 0.10	0.36	6.27 ± 0.17	0.53	5.73 ± 0.18	1.85	5.32 ± 0.11	4.82	< 4.30	> 50
G-233	7.09 ± 0.15	0.08	6.71 ± 0.05	0.19	5.70 ± 0.23	1.98	5.39 ± 0.15	4.09	< 4.30	> 50
G-234	7.13 ± 0.37	0.07	7.11 ± 0.06	0.08	6.03 ± 0.34	0.93	5.50 ± 0.04	3.13	< 4.30	> 50
G-235	6.19 ± 0.11	0.65	5.70 ± 0.09	2.00	5.56 ± 0.23	2.73	4.82 ± 0.06	15.02	< 4.30	> 50
G-236	6.78 ± 0.43	0.17	5.18 ± 0.13	6.68	5.10 ± 0.25	7.91	< 4.70	> 20	< 4.30	> 50
G-237	6.09 ± 0.09	0.82	5.61 ± 0.13	2.44	5.31 ± 0.23	4.88	4.87 ± 0.08	13.65	< 4.30	> 50
G-238	6.33 ± 0.11	0.47	5.05 ± 0.06	8.99	5.20 ± 0.27	6.38	< 4.70	> 20	< 4.30	> 50
G-239	6.87 ± 0.52	0.14	6.37 ± 0.18	0.42	5.67 ± 0.34	2.15	5.18 ± 0.04	6.58	< 4.30	> 50
G-240	6.39 ± 0.16	0.40	6.66 ± 0.15	0.22	5.76 ± 0.23	1.75	5.40 ± 0.04	3.96	< 4.30	> 50
G-241	6.20 ± 0.10	0.63	5.92 ± 0.14	1.20	5.24 ± 0.17	5.78	4.74 ± 0.04	18.03	< 4.30	> 50
G-242	6.93 ± 0.34	0.12	5.91 ± 0.11	1.22	5.11 ± 0.19	7.83	4.74 ± 0.03	18.20	< 4.30	> 50
G-243	6.76 ± 0.09	0.17	5.72 ± 0.15	1.92	5.01 ± 0.16	9.73	4.74 ± 0.04	18.28	< 4.30	> 50
G-244	6.68 ± 0.03	0.21	6.51 ± 0.18	0.31	5.56 ± 0.22	2.73	5.34 ± 0.11	4.57	4.35 ± 0.06	45
G-245	7.22 ± 0.34	0.06	6.47 ± 0.13	0.34	5.73 ± 0.18	1.88	5.30 ± 0.16	5.03	< 4.30	> 50
G-247	7.61 ± 0.09	0.02	5.99 ± 0.11	1.02	5.00 ± 0.13	10.09	4.84 ± 0.06	14.45	< 4.30	> 50
G-301	7.78 ± 0.35	0.02	6.59 ± 0.21	0.26	5.66 ± 0.21	2.21	5.42 ± 0.15	3.77	< 4.30	> 50
G-302	6.60 ± 0.41	0.25	6.18 ± 0.08	0.66	5.73 ± 0.21	1.86	4.95 ± 0.08	11.13	< 4.30	> 50
G-303	7.01 ± 0.27	0.10	6.67 ± 0.23	0.21	6.05 ± 0.23	0.90	5.74 ± 0.08	1.84	< 4.30	> 50
G-304	6.58 ± 0.45	0.26	5.32 ± 0.32	4.84	5.30 ± 0.26	5.07	4.72 ± 0.02	18.98	< 4.30	> 50
G-305	6.79 ± 0.23	0.16	6.03 ± 0.10	0.94	5.63 ± 0.21	2.33	5.13 ± 0.09	7.44	< 4.30	> 50
G-306			6.19 ± 0.15	0.65	5.51 ± 0.24	3.07	5.01 ± 0.06	9.85		
G-307	5.97 ± 0.32	1.06	5.08 ± 0.15	8.37	5.37 ± 0.24	4.24	4.74 ± 0.04	18.20	< 4.30	> 50

G-308	6.84 ± 0.32	0.15	5.77 ± 0.17	1.69	5.51 ± 0.28	3.09	5.03 ± 0.04	9.37	< 4.30	> 50
G-309	6.17 ± 0.26	0.68	5.55 ± 0.12	2.80	5.35 ± 0.20	4.52	4.90 ± 0.02	12.47	< 4.30	> 50
G-310	7.07 ± 0.40	0.09	5.97 ± 0.11	1.08	5.50 ± 0.27	3.14	4.96 ± 0.03	10.86	< 4.30	> 50
G-311	5.85 ± 0.25	1.42	5.00 ± 0.17	9.94	5.09 ± 0.26	8.22	< 4.70	> 20	< 4.30	> 50
G-312	6.61 ± 0.14	0.25	6.01 ± 0.06	0.98	5.39 ± 0.28	4.12	4.95 ± 0.01	11.16	< 4.30	> 50
G-313	7.39 ± 0.30	0.04	6.22 ± 0.17	0.60	5.72 ± 0.25	1.89	5.28 ± 0.09	5.31	< 4.30	> 50
G-314	6.41 ± 0.20	0.39	6.07 ± 0.09	0.86	5.31 ± 0.25	4.90	4.72 ± 0.02	19.23	< 4.30	> 50
G-315	6.92 ± 0.17	0.12	7.46 ± 0.13	0.03	5.86 ± 0.28	1.40	5.53 ± 0.07	2.92	< 4.30	> 50
G-316	7.15 ± 0.27	0.07	6.56 ± 0.12	0.28	5.48 ± 0.25	3.29	5.10 ± 0.08	8.02	< 4.30	> 50
G-317	6.00 ± 0.16	1.01	5.57 ± 0.14	2.69	5.28 ± 0.18	5.22	4.86 ± 0.07	13.74	< 4.30	> 50
G-318	5.96 ± 0.16	1.10	5.06 ± 0.18	8.64	4.98 ± 0.18	10.59	< 4.70	> 20	< 4.30	> 50
G-319	6.48 ± 0.28	0.33	5.35 ± 0.16	4.47	5.22 ± 0.21	6.03	< 4.70	> 20	< 4.30	> 50
G-320	7.21 ± 0.06	0.06	6.89 ± 0.02	0.13	5.60 ± 0.22	2.50	5.58 ± 0.07	2.61	< 4.30	> 50
G-321	7.00 ± 0.11	0.10	6.90 ± 0.21	0.13	5.49 ± 0.16	3.24	5.18 ± 0.06	6.67	< 4.30	> 50
G-323	7.40 ± 0.27	0.04	6.29 ± 0.11	0.51	5.59 ± 0.19	2.56	5.02 ± 0.07	9.46	< 4.30	> 50
G-324	7.29 ± 0.51	0.05	6.57 ± 0.14	0.27	5.48 ± 0.23	3.35	5.06 ± 0.04	8.75	< 4.30	> 50
G-325	6.93 ± 0.34	0.12	7.29 ± 0.11	0.05	5.98 ± 0.27	1.05	5.63 ± 0.06	2.36	< 4.30	> 50
G-326	6.87 ± 0.40	0.13	6.01 ± 0.20	0.97	5.20 ± 0.17	6.38	4.88 ± 0.03	13.24	5.14 ± 0.01	7
G-327	5.70 ± 0.11	2.01	5.21 ± 0.11	6.13	5.12 ± 0.19	7.55	< 4.70	> 20	< 4.30	> 50
G-329	6.09 ± 0.09	0.82	5.56 ± 0.07	2.74	5.33 ± 0.29	4.72	4.95 ± 0.03	11.17	5.14 ± 0.04	7
G-330	5.98 ± 0.14	1.04	5.18 ± 0.14	6.61	5.29 ± 0.21	5.13	4.84 ± 0.05	14.45	< 4.30	> 50
G-331	6.32 ± 0.33	0.48	5.71 ± 0.13	1.96	5.28 ± 0.18	5.25	4.95 ± 0.09	11.32	< 4.30	> 50
G-332	6.25 ± 0.13	0.56	6.75 ± 0.19	0.18	5.68 ± 0.21	2.09	5.26 ± 0.11	5.47	< 4.30	> 50
G-333	6.24 ± 0.60	0.57	6.17 ± 0.15	0.67	5.34 ± 0.23	4.60	5.06 ± 0.06	8.75	4.32 ± 0.02	48
G-334	5.97 ± 0.13	1.07	5.20 ± 0.17	6.31	5.27 ± 0.25	5.32	4.92 ± 0.04	12.13	< 4.30	> 50
G-335	6.89 ± 0.08	0.13	6.93 ± 0.05	0.12	5.86 ± 0.23	1.40	5.56 ± 0.06	2.75	< 4.30	> 50
G-336	6.35 ± 0.19	0.45	6.17 ± 0.05	0.67	5.58 ± 0.23	2.62	5.11 ± 0.06	7.69	< 4.30	> 50
G-337	5.88 ± 0.03	1.33	5.94 ± 0.13	1.15	5.50 ± 0.14	3.16	4.74 ± 0.04	18.03	< 4.30	> 50
G-338	7.05 ± 0.14	0.09	6.00 ± 0.35	0.99	5.36 ± 0.25	4.42	5.03 ± 0.06	9.42	< 4.30	> 50
G-340	6.18 ± 0.05	0.66	6.08 ± 0.21	0.83	5.35 ± 0.19	4.49	4.93 ± 0.05	11.80	< 4.30	> 50
G-342	5.73 ± 0.13	1.88	5.80 ± 0.08	1.60	5.72 ± 0.20	1.91	4.82 ± 0.05	15.07	< 4.30	> 50
G-343	6.76 ± 0.48	0.17	5.25 ± 0.15	5.66	5.55 ± 0.19	2.85	4.75 ± 0.05	17.95	4.61 ± 0.06	25
G-344	5.52 ± 0.14	3.02	5.32 ± 0.18	4.82	5.50 ± 0.28	3.19	4.81 ± 0.03	15.56	< 4.30	> 50
G-345	6.48 ± 0.15	0.33	5.28 ± 0.15	5.28	5.21 ± 0.22	6.22	4.73 ± 0.03	18.62	< 4.30	> 50
G-346	7.31 ± 0.16	0.05	6.52 ± 0.12	0.30	5.42 ± 0.26	3.78	5.24 ± 0.13	5.75	< 4.30	> 50
G-347	7.54 ± 0.17	0.03	6.10 ± 0.08	0.80	5.23 ± 0.19	5.89	4.88 ± 0.04	13.18	< 4.30	> 50
G-352	6.95 ± 0.30	0.11	5.86 ± 0.23	1.38	5.16 ± 0.26	6.96	4.72 ± 0.02	19.13	< 4.30	> 50
G-353	6.05 ± 0.24	0.89	5.92 ± 0.25	1.20	5.64 ± 0.26	2.29	4.94 ± 0.01	11.38	< 4.30	> 50
G-354	7.08 ± 0.19	0.08	6.24 ± 0.14	0.58	5.37 ± 0.25	4.24	4.96 ± 0.04	10.91	4.34 ± 0.04	46

The activities of the indicated nitrothiazoles were assayed against two metronidazole-sensitive (Mz^S) *G. lamblia* strains (713 and 106) and two metronidazole-resistant (Mz^R) *G. lamblia* strains (713M3 and WB-M2) in a 48 h growth and survival assay with ATP as a read-out. Triazole names refer to the azide core with the first letter (G, see Fig. 1) and the alkynes with the number (101-354); Ntz, Nitazoxanide. Data are mean ± SE of the pEC50 values obtained in at least three independent experiments; EC50 values (in μ M) were calculated from the mean pEC50. Cytotoxicity of the nitrothiazoles was tested against human HeLa epithelial cells in a 48 h growth and survival assay, using AlamarBlue dye reduction as a read-out. Data are mean ± SE of the pCC50 values obtained in at least three independent experiments; CC50 values (in μ M) were calculated from the mean pCC50. Compounds with no detectable cytotoxicity at the highest tested concentration (50 μ M) are indicated with a pCC50 value of <4.30.

Table S3. Antigiardial activity and cytotoxicity of new nitrofurans

Name	Mz ^S <i>G. lamblia</i>						Mz ^R <i>G. lamblia</i>						HeLa	
	713			106			713M3			WB-M2			pCC50	CC50 (μM)
	pEC50	EC50 (μM)	EC50	pEC50	EC50 (μM)	EC50	pEC50	EC50 (μM)	EC50	pEC50	EC50 (μM)	EC50		
Fzd	6.39 ± 0.10	0.40	0.40	6.15 ± 0.10	0.71	0.71	5.52 ± 0.15	3.02	3.02	5.48 ± 0.30	3.32	3.32		
H-101	6.04 ± 0.39	0.92	0.92	6.45 ± 0.36	0.09	0.09	6.91 ± 0.08	0.12	0.12	5.80 ± 0.12	1.58	1.58	4.48 ± 0.07	33
H-102	5.66 ± 0.14	2.18	2.18	5.50 ± 3.20	0.22	0.22	5.52 ± 0.29	3.02	3.02	4.75 ± 0.05	17.92	17.92	4.45 ± 0.08	35
H-103	5.80 ± 0.23	1.58	1.58	6.27 ± 0.54	0.20	0.20	6.17 ± 0.28	0.68	0.68	5.50 ± 0.16	3.19	3.19	5.00 ± 0.05	10
H-104	5.42 ± 0.16	3.77	3.77	5.70 ± 2.00	0.20	0.20	5.49 ± 0.33	3.21	3.21	4.85 ± 0.06	14.18	14.18	4.44 ± 0.11	36
H-105	5.54 ± 0.17	2.86	2.86	5.53 ± 2.99	0.15	0.15	5.45 ± 0.27	3.58	3.58	4.87 ± 0.03	13.54	13.54	4.42 ± 0.07	38
H-106	5.62 ± 0.11	2.42	2.42	5.98 ± 1.05	0.23	0.23	5.66 ± 0.41	2.17	2.17	4.96 ± 0.08	11.01	11.01	< 4.30	> 50
H-107	5.63 ± 0.13	2.34	2.34	5.90 ± 1.27	0.24	0.24	6.46 ± 0.17	0.35	0.35	5.05 ± 0.08	8.95	8.95	4.67 ± 0.04	21
H-108	5.66 ± 0.14	2.21	2.21	5.84 ± 1.45	0.27	0.27	5.84 ± 0.24	1.44	1.44	5.02 ± 0.08	9.55	9.55	< 4.30	> 50
H-109	5.56 ± 0.12	2.76	2.76	6.01 ± 0.98	0.20	0.20	5.61 ± 0.31	2.44	2.44	5.05 ± 0.11	8.98	8.98	4.38 ± 0.06	42
H-110	5.61 ± 0.13	2.45	2.45	5.63 ± 2.37	0.11	0.11	5.46 ± 0.20	3.47	3.47	4.85 ± 0.04	14.07	14.07	4.71 ± 0.06	20
H-111	5.77 ± 0.12	1.71	1.71	5.68 ± 2.08	0.17	0.17	6.17 ± 0.25	0.68	0.68	5.14 ± 0.15	7.22	7.22	4.73 ± 0.11	19
H-112	5.73 ± 0.09	1.88	1.88	6.02 ± 0.97	0.28	0.28	5.99 ± 0.30	1.04	1.04	5.15 ± 0.10	7.05	7.05	4.43 ± 0.07	38
H-113	5.49 ± 0.14	3.21	3.21	6.09 ± 0.82	0.12	0.12	5.88 ± 0.26	1.32	1.32	5.03 ± 0.07	9.26	9.26	4.78 ± 0.04	17
H-115	5.29 ± 0.11	5.19	5.19	5.50 ± 3.14	0.26	0.26	5.99 ± 0.30	1.04	1.04	5.01 ± 0.04	9.81	9.81	4.95 ± 0.03	11
H-116	6.68 ± 0.14	0.21	0.21	6.65 ± 0.23	0.08	0.08	7.64 ± 0.26	0.02	0.02	6.06 ± 0.17	0.87	0.87	4.34 ± 0.11	45
H-117	5.89 ± 0.44	1.28	1.28	5.54 ± 2.88	0.29	0.29	4.88 ± 0.18	13.08	13.08	4.73 ± 0.03	18.69	18.69	4.62 ± 0.15	24
H-118	5.59 ± 0.23	2.56	2.56	5.52 ± 3.00	0.24	0.24	5.15 ± 0.28	7.12	7.12	4.75 ± 0.05	17.92	17.92	4.95 ± 0.07	11
H-119	5.43 ± 0.13	3.73	3.73	5.42 ± 3.80	0.18	0.18	5.06 ± 0.08	8.78	8.78	4.86 ± 0.06	13.80	13.80	< 4.30	> 50
H-120	6.73 ± 0.32	0.19	0.19	6.38 ± 0.42	0.14	0.14	6.58 ± 0.21	0.26	0.26	5.59 ± 0.13	2.60	2.60	4.38 ± 0.12	41
H-121	5.86 ± 0.22	1.40	1.40	6.01 ± 0.98	0.12	0.12	5.91 ± 0.24	1.22	1.22	5.19 ± 0.09	6.46	6.46	4.36 ± 0.11	43
H-122	6.66 ± 0.25	0.22	0.22	6.51 ± 0.31	0.16	0.16	6.27 ± 0.27	0.54	0.54	5.64 ± 0.06	2.30	2.30	< 4.30	> 50
H-123	6.22 ± 0.26	0.61	0.61	6.31 ± 0.49	0.18	0.18	5.87 ± 0.22	1.35	1.35	5.44 ± 0.10	3.66	3.66	4.51 ± 0.08	31
H-124	5.59 ± 0.19	2.60	2.60	5.88 ± 1.31	0.14	0.14	5.53 ± 0.16	2.95	2.95	5.07 ± 0.08	8.61	8.61	4.40 ± 0.05	40
H-125	5.64 ± 0.11	2.29	2.29	5.61 ± 2.45	0.17	0.17	5.16 ± 0.23	6.96	6.96	4.80 ± 0.05	15.92	15.92	< 4.30	> 50
H-126	6.20 ± 0.29	0.63	0.63	4.70 ± 19.95	0.00	0.00	< 4.70	> 20	> 20	< 4.70	> 20	> 20	4.33 ± 0.01	47
H-127	5.55 ± 0.14	2.84	2.84	5.49 ± 3.24	0.15	0.15	5.28 ± 0.19	5.22	5.22	4.97 ± 0.08	10.80	10.80	4.87 ± 0.10	13
H-128	5.72 ± 0.15	1.91	1.91	5.36 ± 4.42	0.17	0.17	5.39 ± 0.23	4.05	4.05	4.82 ± 0.04	15.14	15.14	< 4.30	> 50
H-129	5.52 ± 0.09	3.05	3.05	5.66 ± 2.21	0.18	0.18	5.81 ± 0.32	1.56	1.56	4.99 ± 0.05	10.27	10.27	4.54 ± 0.09	29
H-130	5.74 ± 0.26	1.83	1.83	5.43 ± 3.72	0.20	0.20	5.17 ± 0.30	6.72	6.72	4.77 ± 0.04	17.18	17.18	5.00 ± 0.03	10
H-131	5.72 ± 0.10	1.91	1.91	5.39 ± 4.10	0.17	0.17	5.19 ± 0.30	6.53	6.53	4.93 ± 0.06	11.84	11.84	4.36 ± 0.09	43
H-132	5.38 ± 0.08	4.18	4.18	5.53 ± 2.99	0.20	0.20	5.36 ± 0.25	4.42	4.42	4.89 ± 0.05	12.93	12.93	4.48 ± 0.10	33
H-133	5.44 ± 0.13	3.60	3.60	5.61 ± 2.45	0.14	0.14	5.29 ± 0.28	5.13	5.13	4.85 ± 0.04	14.06	14.06	4.38 ± 0.10	42
H-134	6.32 ± 0.17	0.48	0.48	6.35 ± 0.44	0.24	0.24	6.37 ± 0.23	0.43	0.43	5.49 ± 0.06	3.27	3.27	4.58 ± 0.14	26
H-135	6.01 ± 0.25	0.98	0.98	5.74 ± 1.82	0.14	0.14	6.31 ± 0.11	0.49	0.49	5.15 ± 0.09	7.08	7.08	4.94 ± 0.09	12
H-136	6.01 ± 0.24	0.98	0.98	6.12 ± 0.75	0.17	0.17	5.60 ± 0.19	2.51	2.51	5.21 ± 0.09	6.14	6.14	< 4.30	> 50
H-137	6.19 ± 0.20	0.64	0.64	5.96 ± 1.09	0.25	0.25	5.55 ± 0.20	2.83	2.83	4.89 ± 0.07	12.98	12.98	4.67 ± 0.16	21
H-138	6.49 ± 0.06	0.33	0.33	6.78 ± 0.16	0.05	0.05	6.11 ± 0.21	0.78	0.78	5.27 ± 0.12	5.41	5.41	4.42 ± 0.05	38
H-139	6.15 ± 0.14	0.71	0.71	6.40 ± 0.40	0.25	0.25	6.17 ± 0.22	0.67	0.67	5.86 ± 0.21	1.38	1.38	4.70 ± 0.11	20
H-140	5.72 ± 0.27	1.92	1.92	5.87 ± 1.36	0.23	0.23	5.42 ± 0.28	3.82	3.82	5.00 ± 0.15	10.00	10.00	4.74 ± 0.04	18
H-141	6.39 ± 0.10	0.41	0.41	6.03 ± 0.94	0.21	0.21	6.13 ± 0.34	0.75	0.75	5.20 ± 0.08	6.31	6.31	4.37 ± 0.07	43
H-142	6.20 ± 0.21	0.64	0.64	6.04 ± 0.91	0.01	0.01	6.38 ± 0.29	0.41	0.41	5.64 ± 0.12	2.28	2.28	< 4.30	> 50
H-143	6.29 ± 0.23	0.51	0.51	6.37 ± 0.43	0.11	0.11	6.02 ± 0.22	0.95	0.95	5.68 ± 0.08	2.11	2.11	4.33 ± 0.08	47
H-144	6.43 ± 0.29	0.37	0.37	6.51 ± 0.31	0.10	0.10	6.53 ± 0.21	0.30	0.30	5.58 ± 0.06	2.63	2.63	< 4.30	> 50
H-145	6.12 ± 0.16	0.75	0.75	5.95 ± 1.13	0.19	0.19	5.91 ± 0.28	1.24	1.24	5.06 ± 0.09	8.81	8.81	4.96 ± 0.07	11
H-146	6.13 ± 0.10	0.75	0.75	6.57 ± 0.27	0.06	0.06	6.48 ± 0.29	0.33	0.33	5.59 ± 0.12	2.59	2.59	4.77 ± 0.05	17
H-147	6.19 ± 0.15	0.65	0.65	6.04 ± 0.91	0.12	0.12	5.34 ± 0.15	4.57	4.57	4.98 ± 0.06	10.47	10.47	4.72 ± 0.02	19
H-148	6.22 ± 0.23	0.61	0.61	6.29 ± 0.52	0.25	0.25	6.12 ± 0.29	0.76	0.76	5.09 ± 0.09	8.16	8.16	< 4.30	> 50
H-149	5.86 ± 0.19	1.38	1.38	6.11 ± 0.78	0.23	0.23	5.26 ± 0.24	5.50	5.50	5.00 ± 0.09	9.92	9.92	4.71 ± 0.07	19
H-150	6.02 ± 0.15	0.97	0.97	5.88 ± 1.31	0.14	0.14	5.67 ± 0.27	2.16	2.16	5.15 ± 0.08	7.16	7.16	4.87 ± 0.21	13
H-151	6.70 ± 0.32	0.20	0.20	6.55 ± 0.28	0.29	0.29	6.19 ± 0.29	0.65	0.65	5.06 ± 0.09	8.68	8.68	4.59 ± 0.15	25
H-152	5.46 ± 0.14	3.47	3.47	5.77 ± 1.69	0.06	0.06	5.70 ± 0.36	2.02	2.02	5.04 ± 0.06	9.16	9.16	4.39 ± 0.10	41
H-153	5.67 ± 0.23	2.16	2.16	5.58 ± 2.66	0.22	0.22	5.41 ± 0.25	3.87	3.87	4.82 ± 0.05	15.08	15.08	5.02 ± 0.09	10
H-154	5.82 ± 0.16	1.50	1.50	5.91 ± 1.23	0.22	0.22	5.56 ± 0.35	2.74	2.74	5.04 ± 0.09	9.09	9.09	5.26 ± 0.04	5
H-155	5.72 ± 0.23	1.93	1.93	5.91 ± 1.24	0.18	0.18	5.57 ± 0.32	2.72	2.72	5.01 ± 0.06	9.70	9.70	4.83 ± 0.07	15

H-156	6.54 ± 0.23	0.29	6.12 ± 0.76	0.09	6.47 ± 0.30	0.34	5.31 ± 0.10	4.94	< 4.30	> 50
H-159	6.76 ± 0.29	0.17	6.67 ± 0.21	0.16	6.43 ± 0.28	0.37	5.84 ± 0.09	1.46	< 4.30	> 50
H-160	6.28 ± 0.23	0.52	6.58 ± 0.26	0.10	6.92 ± 0.25	0.12	5.81 ± 0.11	1.54	< 4.30	> 50
H-161	6.40 ± 0.11	0.40	6.53 ± 0.30	0.17	6.51 ± 0.24	0.31	5.61 ± 0.08	2.46	4.36 ± 0.12	44
H-162	5.90 ± 0.30	1.25	5.72 ± 1.91	0.21	5.68 ± 0.18	2.09	5.10 ± 0.10	8.00	4.36 ± 0.05	44
H-163	7.11 ± 0.41	0.08	6.33 ± 0.47	0.17	6.55 ± 0.25	0.28	5.15 ± 0.11	7.03	4.47 ± 0.13	34
H-201	5.22 ± 0.14	6.10	5.47 ± 3.41	0.22	4.94 ± 0.24	11.48	4.72 ± 0.02	18.98	4.40 ± 0.05	40
H-202	5.64 ± 0.21	2.28	5.88 ± 1.33	0.23	5.69 ± 0.33	2.03	4.90 ± 0.04	12.54	4.57 ± 0.09	27
H-203	5.77 ± 0.21	1.70	6.07 ± 0.85	0.17	5.76 ± 0.19	1.73	5.31 ± 0.07	4.86	4.72 ± 0.11	19
H-204	5.58 ± 0.13	2.66	6.12 ± 0.76	0.22	6.02 ± 0.45	0.96	5.14 ± 0.08	7.33	5.09 ± 0.06	8
H-205	5.74 ± 0.15	1.82	5.87 ± 1.35	0.25	5.86 ± 0.34	1.38	5.06 ± 0.10	8.78	4.46 ± 0.04	35
H-206	5.93 ± 0.13	1.17	6.19 ± 0.65	0.21	6.17 ± 0.29	0.68	5.22 ± 0.11	6.03	4.68 ± 0.11	21
H-207	5.79 ± 0.20	1.62	6.25 ± 0.56	0.20	6.21 ± 0.26	0.62	5.37 ± 0.07	4.23	4.74 ± 0.11	18
H-208	6.03 ± 0.31	0.93	6.01 ± 0.99	0.18	5.23 ± 0.30	5.89	4.86 ± 0.04	13.96	4.85 ± 0.14	14
H-209	5.89 ± 0.31	1.29	5.70 ± 2.01	0.17	6.05 ± 0.30	0.89	5.36 ± 0.11	4.40	4.69 ± 0.16	21
H-210	6.99 ± 0.21	0.10	6.10 ± 0.80	0.22	6.10 ± 0.25	0.79	5.02 ± 0.06	9.55	4.58 ± 0.06	26
H-211	6.17 ± 0.32	0.67	6.02 ± 0.95	0.18	6.33 ± 0.16	0.47	5.29 ± 0.12	5.17	4.36 ± 0.06	44
H-212	5.64 ± 0.16	2.29	5.51 ± 3.13	0.24	5.33 ± 0.29	4.70	4.98 ± 0.07	10.47	< 4.30	> 50
H-213	6.87 ± 0.29	0.13	6.78 ± 0.17	0.14	6.30 ± 0.33	0.51	5.71 ± 0.05	1.96	< 4.30	> 50
H-214	5.60 ± 0.22	2.51	5.67 ± 2.16	0.34	5.39 ± 0.32	4.07	4.73 ± 0.03	18.55	4.56 ± 0.16	27
H-215	5.61 ± 0.18	2.44	5.91 ± 1.24	0.18	5.63 ± 0.31	2.33	5.11 ± 0.13	7.76	4.64 ± 0.02	23
H-216	5.82 ± 0.15	1.51	5.90 ± 1.27	0.23	5.69 ± 0.25	2.05	5.18 ± 0.21	6.68	4.50 ± 0.10	31
H-217	5.35 ± 0.13	4.45	5.38 ± 4.14	0.21	5.37 ± 0.31	4.27	4.89 ± 0.10	12.88	4.50 ± 0.06	32
H-218	5.59 ± 0.21	2.58	5.73 ± 1.85	0.15	5.28 ± 0.25	5.25	5.01 ± 0.12	9.70	4.55 ± 0.07	28
H-219	6.34 ± 0.20	0.46	6.12 ± 0.76	0.07	5.86 ± 0.15	1.40	5.37 ± 0.09	4.30	4.41 ± 0.11	39
H-220	7.49 ± 0.51	0.03	6.46 ± 0.35	0.14	6.39 ± 0.18	0.41	5.46 ± 0.14	3.48	5.39 ± 0.06	4
H-221	6.53 ± 0.12	0.30	6.99 ± 0.10	0.17	6.10 ± 0.18	0.80	5.60 ± 0.11	2.50	4.38 ± 0.12	42
H-222	6.56 ± 0.19	0.28	6.61 ± 0.25	0.07	6.72 ± 0.13	0.19	5.61 ± 0.09	2.44	4.35 ± 0.09	45
H-223	5.52 ± 0.19	3.01	5.46 ± 3.47	0.21	5.10 ± 0.26	7.94	4.76 ± 0.04	17.38	4.79 ± 0.01	16
H-224	6.30 ± 0.29	0.50	6.41 ± 0.39	0.15	6.74 ± 0.20	0.18	5.56 ± 0.10	2.73	< 4.30	> 50
H-225	6.62 ± 0.19	0.24	6.39 ± 0.41	0.12	6.14 ± 0.24	0.73	5.28 ± 0.10	5.31	4.31 ± 0.09	49
H-226	6.61 ± 0.09	0.24	6.66 ± 0.22	0.22	5.88 ± 0.10	1.33	5.51 ± 0.10	3.07	4.46 ± 0.03	35
H-227	6.19 ± 0.20	0.64	6.02 ± 0.95	0.15	5.61 ± 0.37	2.44	4.98 ± 0.04	10.39	4.49 ± 0.09	32
H-228	6.31 ± 0.03	0.49	7.01 ± 0.10	0.23	7.12 ± 0.21	0.08	6.02 ± 0.27	0.95	4.40 ± 0.05	40
H-229	6.79 ± 0.00	0.16	6.87 ± 0.14	0.26	6.10 ± 0.24	0.80	5.72 ± 0.09	1.89	< 4.30	> 50
H-230	6.80 ± 0.06	0.16	7.27 ± 0.05	0.10	7.28 ± 0.30	0.05	6.17 ± 0.12	0.68	< 4.30	> 50
H-231	6.35 ± 0.23	0.45	6.54 ± 0.29	0.18	6.76 ± 0.24	0.17	5.78 ± 0.09	1.67	< 4.30	> 50
H-232	5.90 ± 0.32	1.26	6.17 ± 0.68	0.21	5.94 ± 0.41	1.14	5.36 ± 0.12	4.38	4.57 ± 0.27	27
H-233	6.82 ± 0.17	0.15	7.36 ± 0.04	0.07	6.84 ± 0.33	0.14	6.20 ± 0.11	0.63	4.37 ± 0.10	43
H-234	6.40 ± 0.33	0.40	6.76 ± 0.17	0.12	6.95 ± 0.28	0.11	5.98 ± 0.06	1.05	< 4.30	> 50
H-235	5.75 ± 0.17	1.79	6.61 ± 0.24	0.37	6.19 ± 0.24	0.65	5.47 ± 0.13	3.40	4.38 ± 0.08	42
H-236	6.43 ± 0.03	0.37	6.30 ± 0.51	0.23	6.10 ± 0.27	0.80	5.10 ± 0.08	8.04	4.50 ± 0.06	32
H-237	5.52 ± 0.14	3.00	5.74 ± 1.83	0.18	5.45 ± 0.33	3.55	4.97 ± 0.03	10.63	< 4.30	> 50
H-238	6.37 ± 0.17	0.43	7.24 ± 0.06	0.23	6.38 ± 0.22	0.42	5.83 ± 0.22	1.50	4.58 ± 0.03	26
H-239	6.25 ± 0.34	0.56	5.81 ± 1.55	0.16	5.90 ± 0.15	1.26	4.97 ± 0.07	10.63	4.39 ± 0.08	40
H-240	6.66 ± 0.33	0.22	6.28 ± 0.53	0.14	6.39 ± 0.29	0.41	5.56 ± 0.19	2.73	4.44 ± 0.11	36
H-241	6.15 ± 0.14	0.70	6.08 ± 0.84	0.12	5.66 ± 0.25	2.18	4.95 ± 0.04	11.35	4.76 ± 0.19	17
H-242	6.79 ± 0.17	0.16	6.83 ± 0.15	0.24	6.38 ± 0.32	0.41	5.41 ± 0.14	3.91	4.46 ± 0.11	35
H-243	6.38 ± 0.12	0.41	6.44 ± 0.36	0.25	5.83 ± 0.13	1.50	5.64 ± 0.28	2.29	4.82 ± 0.10	15
H-244	6.52 ± 0.05	0.30	6.20 ± 0.64	0.08	5.77 ± 0.20	1.69	5.16 ± 0.11	6.94	< 4.30	> 50
H-245	6.38 ± 0.20	0.42	6.46 ± 0.35	0.18	6.44 ± 0.23	0.37	5.60 ± 0.10	2.52	< 4.30	> 50
H-247	6.54 ± 0.28	0.29	6.57 ± 0.27	0.03	6.45 ± 0.23	0.35	5.82 ± 0.09	1.53	4.33 ± 0.08	47
H-301	6.18 ± 0.29	0.66	6.69 ± 0.21	0.20	6.68 ± 0.22	0.21	5.50 ± 0.10	3.20	< 4.30	> 50
H-302	7.46 ± 0.35	0.03	7.40 ± 0.04	0.15	6.74 ± 0.30	0.18	6.39 ± 0.14	0.41	4.40 ± 0.09	40
H-303	6.21 ± 0.29	0.62	6.72 ± 0.19	0.14	6.83 ± 0.29	0.15	5.63 ± 0.11	2.37	4.37 ± 0.12	43
H-304	6.09 ± 0.24	0.81	6.22 ± 0.60	0.09	5.96 ± 0.23	1.10	5.20 ± 0.12	6.33	< 4.30	> 50
H-305	6.13 ± 0.40	0.74	6.09 ± 0.82	0.14	5.96 ± 0.24	1.10	5.31 ± 0.11	4.90	4.31 ± 0.09	49
H-306	6.58 ± 0.45	0.26	6.35 ± 0.45	0.10	6.41 ± 0.16	0.39	5.40 ± 0.09	3.97	< 4.30	> 50
H-307	6.20 ± 0.19	0.64	6.22 ± 0.61	0.16	6.15 ± 0.29	0.71	5.23 ± 0.11	5.89	4.56 ± 0.06	28
H-309	6.37 ± 0.14	0.42	6.68 ± 0.21	0.11	6.43 ± 0.18	0.37	5.84 ± 0.12	1.43	4.32 ± 0.05	48
H-310	5.91 ± 0.24	1.24	5.87 ± 1.36	0.15	5.99 ± 0.22	1.02	5.18 ± 0.17	6.61	4.45 ± 0.12	35

H-312	6.01 ± 0.57	0.98	6.26 ± 0.55	0.15	6.35 ± 0.28	0.44	5.49 ± 0.16	3.25	4.31 ± 0.09	49
H-313	6.36 ± 0.24	0.44	6.52 ± 0.30	0.11	7.20 ± 0.30	0.06	5.82 ± 0.17	1.53	< 4.30	> 50
H-314	6.17 ± 0.39	0.68	6.50 ± 0.32	0.21	6.10 ± 0.26	0.80	5.17 ± 0.08	6.81	4.47 ± 0.10	34
H-316	6.00 ± 0.51	0.99	6.86 ± 0.14	0.06	6.74 ± 0.08	0.18	5.37 ± 0.12	4.25	4.49 ± 0.12	32
H-318	6.07 ± 0.23	0.84	5.96 ± 1.10	0.09	5.52 ± 0.19	3.04	4.98 ± 0.06	10.43	< 4.30	> 50
H-319	6.00 ± 0.35	1.01	6.17 ± 0.67	0.14	6.45 ± 0.17	0.35	5.43 ± 0.09	3.73	4.45 ± 0.10	35
H-320	6.35 ± 0.36	0.45	6.26 ± 0.56	0.15	6.26 ± 0.18	0.55	5.32 ± 0.12	4.83	< 4.30	> 50
H-321	5.99 ± 0.28	1.03	6.26 ± 0.55	0.09	6.54 ± 0.25	0.29	5.35 ± 0.12	4.43	4.38 ± 0.09	41
H-324	6.45 ± 0.40	0.35	6.21 ± 0.62	0.04	6.12 ± 0.21	0.76	5.40 ± 0.11	4.03	< 4.30	> 50
H-325	6.49 ± 0.26	0.33	6.31 ± 0.49	0.12	6.30 ± 0.24	0.51	5.40 ± 0.09	4.00	4.31 ± 0.10	49
H-326	6.15 ± 0.37	0.70	6.08 ± 0.83	0.12	6.02 ± 0.20	0.95	5.13 ± 0.09	7.38	< 4.30	> 50
H-327	7.26 ± 0.35	0.05	7.06 ± 0.09	0.10	7.87 ± 0.06	0.01	6.66 ± 0.14	0.22	4.35 ± 0.09	45
H-329	6.40 ± 0.36	0.40	6.39 ± 0.40	0.09	6.92 ± 0.26	0.12	5.84 ± 0.13	1.45	4.88 ± 0.15	13
H-330	6.73 ± 0.11	0.18	5.80 ± 1.57	0.15	5.97 ± 0.23	1.08	4.94 ± 0.05	11.39	< 4.30	> 50
H-331	6.73 ± 0.19	0.19	6.95 ± 0.11	0.19	6.89 ± 0.20	0.13	6.05 ± 0.15	0.89	4.37 ± 0.11	42
H-332	6.21 ± 0.22	0.62	6.62 ± 0.24	0.05	6.61 ± 0.27	0.25	5.62 ± 0.09	2.38	< 4.30	> 50
H-333	6.60 ± 0.38	0.25	6.50 ± 0.31	0.13	6.10 ± 0.28	0.80	5.43 ± 0.07	3.74	< 4.30	> 50
H-334	6.13 ± 0.17	0.74	5.99 ± 1.02	0.06	6.59 ± 0.27	0.26	5.65 ± 0.08	2.23	4.51 ± 0.11	31
H-335	6.19 ± 0.26	0.64	6.59 ± 0.26	0.13	6.66 ± 0.27	0.22	5.72 ± 0.11	1.92	< 4.30	> 50
H-336	6.30 ± 0.21	0.50	6.41 ± 0.39	0.14	6.03 ± 0.15	0.94	5.44 ± 0.07	3.66	4.30 ± 0.11	50
H-337	6.33 ± 0.31	0.46	6.28 ± 0.52	0.17	6.01 ± 0.20	0.98	5.14 ± 0.10	7.30	4.40 ± 0.10	40
H-338	5.89 ± 0.24	1.28	6.62 ± 0.24	0.10	6.96 ± 0.19	0.11	5.68 ± 0.08	2.08	< 4.30	> 50
H-339	6.31 ± 0.12	0.49	6.34 ± 0.46	0.18	6.09 ± 0.27	0.81	5.12 ± 0.09	7.67	4.33 ± 0.14	47
H-340	5.67 ± 0.49	2.14	5.96 ± 1.10	0.28	5.55 ± 0.25	2.82	4.98 ± 0.06	10.47	4.55 ± 0.14	28
H-341	6.82 ± 0.26	0.15	6.57 ± 0.27	0.26	6.24 ± 0.32	0.58	5.31 ± 0.10	4.92	4.40 ± 0.12	40
H-342	7.30 ± 0.34	0.05	6.11 ± 0.78	0.25	6.10 ± 0.28	0.79	5.09 ± 0.09	8.22	4.69 ± 0.18	20
H-343	6.00 ± 0.08	1.01	6.33 ± 0.47	0.22	5.96 ± 0.29	1.10	5.07 ± 0.09	8.54	4.62 ± 0.16	24
H-344	6.61 ± 0.17	0.24	6.47 ± 0.34	0.19	6.48 ± 0.30	0.33	5.50 ± 0.15	3.15	4.56 ± 0.14	28
H-345	6.89 ± 0.04	0.13	7.31 ± 0.05	0.21	6.68 ± 0.28	0.21	6.01 ± 0.10	0.98	4.34 ± 0.11	46
H-346	6.67 ± 0.09	0.21	6.63 ± 0.23	0.18	6.51 ± 0.30	0.31	5.54 ± 0.06	2.86	4.41 ± 0.18	39
H-347	5.81 ± 0.12	1.55	5.94 ± 1.14	0.28	5.39 ± 0.23	4.11	4.88 ± 0.05	13.28	4.51 ± 0.09	31
H-348	5.71 ± 0.17	1.96	6.46 ± 0.34	0.27	5.51 ± 0.23	3.11	4.83 ± 0.06	14.85	4.34 ± 0.10	46
H-354	5.75 ± 0.28	1.76	5.77 ± 1.71	0.06	5.84 ± 0.48	1.43	5.15 ± 0.11	7.16	< 4.30	> 50

The activities of the indicated nitrofurans were assayed against two metronidazole-sensitive (Mz^S) *G. lamblia* strains (713 and 106) and two metronidazole-resistant (Mz^R) *G. lamblia* strains (713M3, WB-M2) in a 48 h growth and survival assay with ATP as a read-out. Triazole names refer to the azide core with the first letter (H, Fig. 1) and the alkynes with the number (101-354); Fzd, Furazolidone. Data are mean ± SE of the pEC50 values obtained in at least three independent experiments; EC50 values (in μM) were calculated from the mean pEC50. Cytotoxicity of the nitrofurans was tested against human HeLa epithelial cells in a 48 h growth and survival assay, using AlamarBlue dye reduction as a read-out. Data are mean ± SE of the pCC50 values obtained in at least three independent experiments; CC50 values (in μM) were calculated from the mean pCC50. Compounds with no detectable cytotoxicity at the highest tested concentration (50 μM) are indicated with a pCC50 value of <4.30.

Table S4. Antigiardial activity and cytotoxicity of new nitropyrroles

Name	<i>Mz^S G. lamblia</i>				<i>Mz^R G. lamblia</i>				HeLa	
	713		106		713M3		WB-M2		pCC50	CC50
	pEC50	EC50 (μ M)	pEC50	EC50 (μ M)	pEC50	EC50 (μ M)	pEC50	EC50 (μ M)		
Mz	5.70 ± 0.05	2.01	5.44 ± 0.22	3.60	4.30 ± 0.05	50.22	4.09 ± 0.08	80.40	< 4.30	> 50
I-101	5.58 ± 0.16	2.62	6.20 ± 0.11	0.63	5.76 ± 0.31	1.75	5.09 ± 0.08	8.19	< 4.30	> 50
I-102	5.19 ± 0.10	6.49	5.91 ± 0.10	1.22	5.73 ± 0.27	1.86	4.99 ± 0.06	10.31	4.32 ± 0.09	48
I-103	5.62 ± 0.11	2.43	6.62 ± 0.11	0.24	6.09 ± 0.33	0.82	5.00 ± 0.05	9.92	4.37 ± 0.10	43
I-104	5.23 ± 0.09	5.89	5.83 ± 0.13	1.48	5.85 ± 0.36	1.41	5.00 ± 0.05	9.96	4.40 ± 0.12	40
I-105	5.37 ± 0.02	4.23	5.97 ± 0.21	1.07	5.91 ± 0.33	1.24	5.06 ± 0.06	8.74	< 4.30	> 50
I-106	5.22 ± 0.20	6.07	5.25 ± 0.15	5.62	5.51 ± 0.39	3.11	5.00 ± 0.12	10.08	< 4.30	> 50
I-107	5.58 ± 0.20	2.65	5.89 ± 0.07	1.28	5.75 ± 0.17	1.76	4.84 ± 0.05	14.40	< 4.30	> 50
I-108	5.47 ± 0.04	3.39	5.76 ± 0.24	1.75	6.29 ± 0.28	0.52	5.01 ± 0.04	9.81	4.41 ± 0.07	39
I-109	5.29 ± 0.19	5.13	5.56 ± 0.09	2.75	5.77 ± 0.32	1.70	4.95 ± 0.05	11.35	< 4.30	> 50
I-110	5.38 ± 0.20	4.17	5.93 ± 0.22	1.17	6.05 ± 0.16	0.90	4.98 ± 0.09	10.39	< 4.30	> 50
I-111	5.33 ± 0.09	4.71	6.01 ± 0.04	0.99	6.05 ± 0.30	0.90	5.17 ± 0.10	6.82	< 4.30	> 50
I-112	5.52 ± 0.07	3.04	5.95 ± 0.25	1.13	6.02 ± 0.20	0.96	5.02 ± 0.06	9.55	4.40 ± 0.08	40
I-113	5.99 ± 0.17	1.02	6.77 ± 0.08	0.17	6.27 ± 0.19	0.54	5.10 ± 0.07	7.88	4.33 ± 0.06	46
I-115	5.88 ± 0.46	1.31	6.42 ± 0.21	0.38	5.72 ± 0.21	1.93	5.00 ± 0.05	10.00	4.37 ± 0.09	42
I-116	5.65 ± 0.18	2.26	5.91 ± 0.16	1.24	5.83 ± 0.30	1.50	4.95 ± 0.05	11.27	4.32 ± 0.09	48
I-117	5.11 ± 0.19	7.85	5.80 ± 0.24	1.58	5.65 ± 0.33	2.25	4.88 ± 0.06	13.23	< 4.30	> 50
I-118	5.11 ± 0.02	7.82	6.17 ± 0.28	0.68	5.77 ± 0.23	1.69	4.97 ± 0.07	10.62	4.65 ± 0.09	22
I-119	5.13 ± 0.15	7.41	5.22 ± 0.23	6.03	5.51 ± 0.31	3.11	4.78 ± 0.04	16.60	4.32 ± 0.12	48
I-120	5.63 ± 0.10	2.36	6.13 ± 0.20	0.74	5.95 ± 0.22	1.14	4.98 ± 0.04	10.59	< 4.30	> 50
I-121	5.51 ± 0.15	3.07	5.73 ± 0.21	1.88	5.89 ± 0.26	1.28	5.12 ± 0.13	7.67	4.30 ± 0.12	50
I-122	5.07 ± 0.04	8.51	5.81 ± 0.17	1.56	5.61 ± 0.26	2.47	4.88 ± 0.07	13.18	4.43 ± 0.10	37
I-123	7.15 ± 0.20	0.07	7.12 ± 0.08	0.08	6.55 ± 0.21	0.29	6.17 ± 0.14	0.68	4.31 ± 0.12	49
I-124	5.29 ± 0.05	5.17	5.69 ± 0.10	2.05	5.58 ± 0.22	2.66	4.93 ± 0.06	11.75	< 4.30	> 50
I-125	4.93 ± 0.10	11.75	5.61 ± 0.12	2.45	5.79 ± 0.14	1.61	4.82 ± 0.04	15.19	4.52 ± 0.09	30
I-126	5.53 ± 0.17	2.97	6.03 ± 0.16	0.94	5.62 ± 0.23	2.39	5.00 ± 0.09	10.08	< 4.30	> 50
I-127	5.57 ± 0.17	2.69	6.07 ± 0.16	0.84	6.23 ± 0.23	0.59	4.80 ± 0.06	16.03	4.30 ± 0.06	50
I-128	5.33 ± 0.29	4.71	5.34 ± 0.23	4.61	5.77 ± 0.13	1.69	4.86 ± 0.08	13.86	4.32 ± 0.07	48
I-129	5.70 ± 0.33	2.00	5.64 ± 0.18	2.27	5.64 ± 0.17	2.30	4.80 ± 0.05	16.03	4.66 ± 0.10	22
I-130	5.57 ± 0.12	2.67	6.45 ± 0.16	0.35	6.00 ± 0.13	1.00	4.97 ± 0.10	10.84	4.54 ± 0.08	29
I-131	5.81 ± 0.05	1.54	6.19 ± 0.22	0.65	6.22 ± 0.22	0.61	5.38 ± 0.12	4.14	4.47 ± 0.08	34
I-132	5.21 ± 0.26	6.17	5.51 ± 0.24	3.11	5.97 ± 0.28	1.06	4.89 ± 0.05	12.83	4.46 ± 0.11	35
I-133	5.66 ± 0.46	2.20	5.64 ± 0.06	2.29	6.19 ± 0.25	0.64	4.83 ± 0.08	14.96	4.65 ± 0.08	22
I-134	5.73 ± 0.12	1.86	5.96 ± 0.13	1.09	5.93 ± 0.20	1.18	4.81 ± 0.05	15.49	4.31 ± 0.05	49
I-135	6.26 ± 0.09	0.55	6.43 ± 0.16	0.37	6.15 ± 0.15	0.70	5.45 ± 0.08	3.53	4.70 ± 0.08	20
I-136	5.11 ± 0.09	7.73	5.30 ± 0.23	5.01	5.60 ± 0.17	2.51	4.83 ± 0.05	14.96	4.61 ± 0.11	25
I-137	5.99 ± 0.11	1.02	6.49 ± 0.19	0.32	6.50 ± 0.17	0.31	5.34 ± 0.19	4.59	4.56 ± 0.08	28
I-138	5.65 ± 0.19	2.24	5.68 ± 0.23	2.11	5.65 ± 0.31	2.24	4.71 ± 0.01	19.35	4.58 ± 0.11	27
I-139	5.45 ± 0.33	3.58	5.88 ± 0.21	1.33	5.90 ± 0.25	1.27	4.90 ± 0.10	12.54	< 4.30	> 50
I-141	5.91 ± 0.33	1.22	6.44 ± 0.16	0.36	6.07 ± 0.19	0.85	4.85 ± 0.08	14.13	4.53 ± 0.08	30
I-142	5.38 ± 0.15	4.21	5.87 ± 0.06	1.34	6.00 ± 0.25	1.00	4.93 ± 0.07	11.66	4.71 ± 0.10	20
I-143	5.74 ± 0.16	1.81	6.35 ± 0.11	0.44	6.01 ± 0.23	0.97	4.99 ± 0.05	10.35	4.46 ± 0.09	35
I-144	5.00 ± 0.04	10.09	5.23 ± 0.14	5.93	5.42 ± 0.18	3.84	4.73 ± 0.03	18.62	< 4.30	> 50
I-145	5.47 ± 0.14	3.42	5.41 ± 0.13	3.86	5.62 ± 0.25	2.39	4.75 ± 0.05	17.92	4.31 ± 0.08	49
I-146	5.29 ± 0.12	5.08	5.41 ± 0.14	3.89	5.59 ± 0.20	2.57	4.72 ± 0.01	19.23	4.51 ± 0.05	31
I-147	5.76 ± 0.22	1.74	5.54 ± 0.28	2.88	5.62 ± 0.18	2.39	4.83 ± 0.07	14.96	4.50 ± 0.08	32
I-148	5.60 ± 0.24	2.50	5.94 ± 0.19	1.14	5.92 ± 0.26	1.19	4.82 ± 0.05	15.02	4.64 ± 0.08	23
I-149	5.30 ± 0.15	5.01	5.46 ± 0.02	3.49	5.44 ± 0.14	3.66	4.74 ± 0.04	18.06	4.49 ± 0.07	33
I-150	5.49 ± 0.15	3.21	5.54 ± 0.24	2.88	5.76 ± 0.29	1.75	4.81 ± 0.06	15.61	4.45 ± 0.11	36
I-151	5.54 ± 0.15	2.86	5.67 ± 0.12	2.14	5.92 ± 0.24	1.20	4.82 ± 0.08	15.19	4.50 ± 0.10	31
I-152	5.42 ± 0.14	3.78	5.74 ± 0.23	1.83	5.65 ± 0.22	2.24	4.89 ± 0.08	12.93	4.42 ± 0.07	38
I-153	5.67 ± 0.18	2.12	5.61 ± 0.16	2.44	5.84 ± 0.30	1.46	5.04 ± 0.27	9.05	4.69 ± 0.12	20
I-154	5.44 ± 0.09	3.65	5.68 ± 0.19	2.09	6.32 ± 0.26	0.48	4.96 ± 0.09	10.88	4.49 ± 0.09	33
I-155	5.64 ± 0.15	2.30	6.15 ± 0.20	0.70	6.22 ± 0.22	0.60	5.02 ± 0.09	9.59	4.35 ± 0.10	45
I-156	5.82 ± 0.09	1.51	6.33 ± 0.15	0.46	6.14 ± 0.19	0.72	5.14 ± 0.07	7.33	< 4.30	> 50

I-157	5.80 ± 0.15	1.58	6.02 ± 0.18	0.95	6.13 ± 0.10	0.74	4.92 ± 0.10	12.07	4.31 ± 0.06	49
I-158	5.45 ± 0.19	3.52	5.80 ± 0.20	1.57	6.08 ± 0.29	0.84	4.92 ± 0.07	12.12	4.51 ± 0.09	31
I-159	5.65 ± 0.17	2.22	5.68 ± 0.16	2.07	5.91 ± 0.25	1.23	4.96 ± 0.08	11.01	< 4.30	> 50
I-160	5.25 ± 0.12	5.65	5.69 ± 0.22	2.06	6.12 ± 0.27	0.75	4.95 ± 0.10	11.18	4.36 ± 0.09	44
I-161	5.86 ± 0.24	1.38	5.77 ± 0.23	1.69	6.09 ± 0.22	0.82	4.99 ± 0.05	10.19	4.37 ± 0.07	42
I-162	5.92 ± 0.08	1.20	5.98 ± 0.21	1.06	6.07 ± 0.27	0.85	5.13 ± 0.09	7.36	< 4.30	> 50
I-163	6.00 ± 0.14	1.01	6.21 ± 0.17	0.62	6.00 ± 0.29	1.01	5.01 ± 0.08	9.77	4.52 ± 0.09	30
I-201	5.28 ± 0.06	5.21	6.06 ± 0.14	0.86	5.95 ± 0.35	1.14	5.01 ± 0.07	9.70	4.42 ± 0.13	38
I-202	6.31 ± 0.21	0.49	6.49 ± 0.22	0.32	6.10 ± 0.20	0.80	5.37 ± 0.11	4.23	4.34 ± 0.09	46
I-203	5.89 ± 0.17	1.28	6.28 ± 0.15	0.52	5.78 ± 0.27	1.65	4.98 ± 0.04	10.55	< 4.30	> 50
I-204	5.79 ± 0.16	1.64	6.98 ± 0.23	0.11	6.05 ± 0.24	0.90	5.19 ± 0.11	6.43	4.35 ± 0.09	45
I-205	5.57 ± 0.13	2.69	5.72 ± 0.23	1.89	6.23 ± 0.24	0.59	5.16 ± 0.16	6.85	< 4.30	> 50
I-206	5.90 ± 0.17	1.27	5.99 ± 0.15	1.02	5.91 ± 0.20	1.22	4.78 ± 0.06	16.66	< 4.30	> 50
I-207	5.76 ± 0.11	1.72	6.02 ± 0.11	0.96	5.62 ± 0.24	2.39	4.99 ± 0.04	10.15	4.45 ± 0.12	35
I-208	4.88 ± 0.09	13.28	5.55 ± 0.22	2.82	5.61 ± 0.28	2.44	4.91 ± 0.03	12.35	4.76 ± 0.05	17
I-209	5.48 ± 0.31	3.29	6.54 ± 0.13	0.29	5.56 ± 0.30	2.77	4.76 ± 0.04	17.58	4.39 ± 0.10	41
I-210	5.75 ± 0.10	1.76	6.25 ± 0.17	0.56	6.04 ± 0.27	0.92	5.02 ± 0.08	9.62	< 4.30	> 50
I-211	5.61 ± 0.31	2.44	5.96 ± 0.12	1.10	5.94 ± 0.28	1.14	4.93 ± 0.03	11.75	4.56 ± 0.12	28
I-212	5.50 ± 0.35	3.16	5.76 ± 0.24	1.75	5.79 ± 0.31	1.63	5.02 ± 0.15	9.48	< 4.30	> 50
I-213	5.42 ± 0.09	3.77	5.67 ± 0.13	2.16	5.86 ± 0.31	1.38	5.03 ± 0.05	9.44	4.32 ± 0.13	48
I-214	4.91 ± 0.11	12.21	5.57 ± 0.14	2.68	5.81 ± 0.16	1.54	4.85 ± 0.05	14.18	< 4.30	> 50
I-215	5.76 ± 0.14	1.74	6.18 ± 0.11	0.66	6.12 ± 0.25	0.76	5.33 ± 0.10	4.73	4.41 ± 0.11	39
I-216	4.74 ± 0.03	18.41	5.26 ± 0.15	5.50	5.35 ± 0.25	4.50	4.78 ± 0.04	16.60	4.60 ± 0.14	25
I-218	5.44 ± 0.13	3.63	5.71 ± 0.15	1.96	5.86 ± 0.26	1.38	4.96 ± 0.08	10.88	4.31 ± 0.06	49
I-219	5.48 ± 0.14	3.31	6.19 ± 0.22	0.65	5.82 ± 0.13	1.51	4.93 ± 0.05	11.64	4.60 ± 0.07	25
I-220	5.70 ± 0.21	1.99	6.06 ± 0.13	0.86	6.51 ± 0.29	0.31	5.37 ± 0.10	4.27	4.98 ± 0.11	11
I-221	5.87 ± 0.09	1.36	6.41 ± 0.12	0.39	5.91 ± 0.27	1.23	4.84 ± 0.06	14.40	< 4.30	> 50
I-222	5.30 ± 0.13	5.06	6.01 ± 0.19	0.98	6.37 ± 0.22	0.42	5.10 ± 0.09	7.97	4.57 ± 0.09	27
I-223	5.87 ± 0.13	1.35	6.29 ± 0.08	0.52	6.12 ± 0.19	0.76	4.74 ± 0.03	18.27	4.73 ± 0.09	19
I-224	5.56 ± 0.21	2.78	5.87 ± 0.17	1.35	5.68 ± 0.12	2.09	4.81 ± 0.06	15.63	4.49 ± 0.09	32
I-225	5.83 ± 0.07	1.48	6.31 ± 0.24	0.49	5.84 ± 0.25	1.46	4.77 ± 0.05	17.18	< 4.30	> 50
I-226	5.53 ± 0.08	2.95	6.41 ± 0.24	0.39	5.95 ± 0.22	1.12	4.91 ± 0.08	12.21	4.49 ± 0.09	32
I-227	5.57 ± 0.33	2.71	5.98 ± 0.22	1.05	5.75 ± 0.23	1.79	4.89 ± 0.11	12.83	4.45 ± 0.07	36
I-228	5.51 ± 0.47	3.09	5.79 ± 0.25	1.61	5.90 ± 0.25	1.26	5.02 ± 0.09	9.62	4.44 ± 0.08	36
I-229	5.51 ± 0.13	3.07	5.81 ± 0.18	1.56	5.89 ± 0.24	1.29	4.97 ± 0.07	10.80	4.54 ± 0.08	29
I-230	5.69 ± 0.15	2.06	5.96 ± 0.08	1.10	6.01 ± 0.26	0.97	5.04 ± 0.06	9.19	< 4.30	> 50
I-231	5.53 ± 0.09	2.95	5.63 ± 0.14	2.33	5.65 ± 0.22	2.24	4.90 ± 0.08	12.69	4.50 ± 0.09	31
I-234	5.37 ± 0.23	4.23	5.87 ± 0.24	1.34	5.93 ± 0.19	1.17	4.85 ± 0.09	14.23	4.80 ± 0.09	16
I-235	5.66 ± 0.17	2.17	5.65 ± 0.23	2.26	5.82 ± 0.25	1.53	4.80 ± 0.06	15.91	4.40 ± 0.08	40
I-236	6.02 ± 0.22	0.95	6.10 ± 0.22	0.79	5.93 ± 0.18	1.16	4.95 ± 0.13	11.35	4.46 ± 0.08	35
I-237	6.01 ± 0.36	0.97	6.24 ± 0.21	0.58	6.80 ± 0.29	0.16	5.18 ± 0.14	6.58	4.58 ± 0.10	26
I-238	5.71 ± 0.45	1.95	5.37 ± 0.12	4.30	5.30 ± 0.23	4.98	4.70 ± 0.00	19.95	< 4.30	> 50
I-239	5.58 ± 0.14	2.63	5.48 ± 0.21	3.29	5.76 ± 0.24	1.75	4.90 ± 0.07	12.69	4.37 ± 0.07	43
I-240	6.09 ± 0.09	0.81	5.97 ± 0.18	1.07	6.46 ± 0.13	0.34	5.41 ± 0.22	3.92	4.73 ± 0.07	19
I-241	5.49 ± 0.18	3.27	5.88 ± 0.24	1.33	5.94 ± 0.14	1.15	4.96 ± 0.10	11.05	4.56 ± 0.10	27
I-242	6.31 ± 0.07	0.49	6.61 ± 0.08	0.25	6.33 ± 0.37	0.47	5.57 ± 0.08	2.69	4.41 ± 0.08	39
I-243	5.82 ± 0.15	1.53	6.09 ± 0.18	0.82	6.21 ± 0.30	0.61	5.22 ± 0.16	6.08	< 4.30	> 50
I-244	6.13 ± 0.21	0.74	6.62 ± 0.22	0.24	5.96 ± 0.22	1.09	5.24 ± 0.17	5.71	< 4.30	> 50
I-245	5.66 ± 0.15	2.18	5.95 ± 0.17	1.12	5.81 ± 0.32	1.54	4.97 ± 0.10	10.72	< 4.30	> 50
I-247	6.10 ± 0.29	0.80	6.19 ± 0.28	0.64	5.89 ± 0.09	1.30	5.61 ± 0.14	2.45	4.33 ± 0.07	46
I-301	5.90 ± 0.44	1.26	6.74 ± 0.20	0.18	5.91 ± 0.37	1.24	5.04 ± 0.07	9.05	4.53 ± 0.10	29
I-302	6.70 ± 0.62	0.20	5.66 ± 0.07	2.21	5.51 ± 0.38	3.11	4.78 ± 0.05	16.47	< 4.30	> 50
I-303	5.55 ± 0.38	2.80	6.86 ± 0.20	0.14	5.97 ± 0.22	1.08	5.09 ± 0.09	8.19	4.36 ± 0.11	44
I-304	6.39 ± 0.18	0.41	5.85 ± 0.08	1.43	5.99 ± 0.24	1.04	5.19 ± 0.11	6.43	< 4.30	> 50
I-305	5.59 ± 0.45	2.59	6.49 ± 0.12	0.32	5.92 ± 0.23	1.20	5.17 ± 0.09	6.73	< 4.30	> 50
I-306	6.02 ± 0.29	0.95	7.70 ± 0.14	0.02	6.26 ± 0.20	0.56	6.53 ± 0.17	0.30	4.34 ± 0.11	46
I-307	5.31 ± 0.35	4.94	5.23 ± 0.24	5.89	5.72 ± 0.32	1.89	4.93 ± 0.08	11.70	< 4.30	> 50
I-308	5.64 ± 0.47	2.27	5.98 ± 0.10	1.04	5.60 ± 0.26	2.53	4.93 ± 0.04	11.66	4.43 ± 0.10	37
I-309	5.39 ± 0.15	4.04	6.18 ± 0.13	0.66	5.69 ± 0.22	2.04	5.01 ± 0.06	9.70	< 4.30	> 50
I-310	5.29 ± 0.34	5.13	5.63 ± 0.17	2.34	5.50 ± 0.34	3.18	4.83 ± 0.07	14.73	< 4.30	> 50
I-311	6.72 ± 0.30	0.19	6.32 ± 0.21	0.48	6.21 ± 0.23	0.62	5.12 ± 0.06	7.61	4.66 ± 0.06	22

I-312	5.11 ± 0.11	7.70	5.75 ± 0.13	1.80	5.98 ± 0.32	1.06	4.98 ± 0.08	10.59	4.41 ± 0.10	39
I-313	5.70 ± 0.08	1.98	6.78 ± 0.06	0.17	6.24 ± 0.31	0.58	5.56 ± 0.13	2.79	< 4.30	> 50
I-314	5.24 ± 0.09	5.80	6.63 ± 0.14	0.23	5.89 ± 0.27	1.30	4.89 ± 0.05	12.88	4.53 ± 0.10	30
I-315	5.28 ± 0.30	5.29	6.07 ± 0.10	0.86	6.05 ± 0.35	0.89	5.01 ± 0.06	9.85	< 4.30	> 50
I-316	5.37 ± 0.07	4.30	6.24 ± 0.16	0.58	5.69 ± 0.20	2.07	5.00 ± 0.11	10.12	4.31 ± 0.09	49
I-317	5.58 ± 0.16	2.63	5.85 ± 0.01	1.42	5.59 ± 0.36	2.55	4.90 ± 0.04	12.69	< 4.30	> 50
I-318	5.06 ± 0.10	8.78	5.23 ± 0.17	5.96	5.47 ± 0.27	3.41	4.78 ± 0.05	16.72	< 4.30	> 50
I-319	5.42 ± 0.13	3.83	5.82 ± 0.11	1.52	5.99 ± 0.30	1.03	5.00 ± 0.08	10.04	< 4.30	> 50
I-320	5.17 ± 0.13	6.76	6.72 ± 0.04	0.19	5.93 ± 0.36	1.17	5.02 ± 0.10	9.48	4.33 ± 0.09	47
I-323	5.27 ± 0.30	5.41	5.76 ± 0.20	1.75	6.06 ± 0.30	0.87	5.13 ± 0.11	7.44	4.32 ± 0.08	48
I-324	5.36 ± 0.40	4.37	6.36 ± 0.11	0.44	6.02 ± 0.38	0.95	5.00 ± 0.06	9.92	4.35 ± 0.10	45
I-325	5.02 ± 0.03	9.62	5.34 ± 0.13	4.57	5.61 ± 0.28	2.47	4.83 ± 0.07	14.68	< 4.30	> 50
I-326	5.49 ± 0.06	3.24	6.04 ± 0.08	0.91	5.69 ± 0.27	2.07	4.91 ± 0.07	12.45	5.22 ± 0.04	6
I-327	5.65 ± 0.12	2.22	6.34 ± 0.09	0.46	5.88 ± 0.21	1.33	5.13 ± 0.08	7.38	4.58 ± 0.03	26
I-328	5.18 ± 0.19	6.66	5.73 ± 0.09	1.88	5.28 ± 0.35	5.21	4.87 ± 0.09	13.65	5.29 ± 0.02	5
I-330	5.84 ± 0.25	1.43	5.91 ± 0.13	1.24	5.57 ± 0.35	2.69	4.78 ± 0.07	16.47	< 4.30	> 50
I-331	5.51 ± 0.18	3.09	5.61 ± 0.14	2.47	5.51 ± 0.20	3.07	4.85 ± 0.04	14.29	< 4.30	> 50
I-332	5.43 ± 0.25	3.72	6.21 ± 0.16	0.62	6.41 ± 0.21	0.39	5.19 ± 0.12	6.43	4.41 ± 0.09	39
I-333	5.26 ± 0.09	5.54	6.15 ± 0.21	0.71	5.52 ± 0.27	3.04	4.85 ± 0.06	14.26	< 4.30	> 50
I-334	5.43 ± 0.09	3.69	6.17 ± 0.16	0.68	6.15 ± 0.28	0.71	5.08 ± 0.11	8.32	< 4.30	> 50
I-335	5.01 ± 0.05	9.77	5.51 ± 0.21	3.07	5.84 ± 0.31	1.45	4.90 ± 0.07	12.59	< 4.30	> 50
I-336	5.59 ± 0.10	2.59	6.54 ± 0.14	0.29	5.47 ± 0.50	3.41	4.79 ± 0.04	16.28	< 4.30	> 50
I-337	6.36 ± 0.05	0.44	6.90 ± 0.19	0.12	5.85 ± 0.23	1.41	5.44 ± 0.10	3.62	< 4.30	> 50
I-339	5.69 ± 0.27	2.06	5.87 ± 0.25	1.36	5.63 ± 0.22	2.33	4.96 ± 0.08	10.88	< 4.30	> 50
I-340	5.44 ± 0.12	3.63	6.09 ± 0.19	0.81	5.98 ± 0.32	1.05	4.98 ± 0.09	10.47	4.33 ± 0.07	46
I-341	5.68 ± 0.11	2.07	6.12 ± 0.09	0.77	5.64 ± 0.15	2.28	4.96 ± 0.07	10.92	< 4.30	> 50
I-342	5.30 ± 0.17	4.97	5.61 ± 0.11	2.44	5.42 ± 0.28	3.77	4.92 ± 0.08	11.98	< 4.30	> 50
I-343	5.81 ± 0.16	1.54	5.85 ± 0.22	1.40	5.58 ± 0.33	2.65	4.97 ± 0.07	10.80	< 4.30	> 50
I-344	5.59 ± 0.15	2.55	6.01 ± 0.07	0.97	5.67 ± 0.31	2.15	5.04 ± 0.06	9.19	< 4.30	> 50
I-345	5.51 ± 0.41	3.11	6.21 ± 0.17	0.62	5.79 ± 0.21	1.64	4.98 ± 0.05	10.51	< 4.30	> 50
I-346	6.14 ± 0.11	0.73	6.48 ± 0.10	0.33	5.94 ± 0.21	1.14	5.07 ± 0.09	8.45	< 4.30	> 50
I-347	5.34 ± 0.18	4.61	6.15 ± 0.20	0.71	5.49 ± 0.44	3.21	4.84 ± 0.10	14.62	< 4.30	> 50
I-348	5.93 ± 0.10	1.18	6.16 ± 0.19	0.69	6.13 ± 0.21	0.74	4.95 ± 0.08	11.31	4.36 ± 0.06	43
I-349	6.22 ± 0.07	0.61	6.91 ± 0.20	0.12	6.39 ± 0.25	0.41	5.36 ± 0.12	4.37	4.59 ± 0.10	26
I-350	5.75 ± 0.07	1.78	6.17 ± 0.09	0.67	6.01 ± 0.14	0.97	5.05 ± 0.08	8.91	4.49 ± 0.08	32
I-351	6.33 ± 0.13	0.47	6.57 ± 0.14	0.27	6.26 ± 0.27	0.55	5.23 ± 0.13	5.93	< 4.30	> 50
I-352	5.99 ± 0.12	1.02	5.92 ± 0.13	1.19	6.11 ± 0.27	0.78	5.07 ± 0.07	8.51	< 4.30	> 50
I-353	5.28 ± 0.34	5.29	5.91 ± 0.12	1.22	5.57 ± 0.28	2.72	4.86 ± 0.05	13.80	4.43 ± 0.10	37

The activities of the indicated nitropyrroles were assayed against two metronidazole-sensitive (Mz^S) *G. lamblia* strains (713 and 106) and two metronidazole-resistant (Mz^R) *G. lamblia* strains (713M3 and WB-M2) in a 48 h growth and survival assay with ATP as a read-out. Triazole names refer to the azide core with the first letter (I, see Fig. 1) and the alkynes with the number (101-353); Mz, Metronidazole. Data are mean ± SE of the pEC50 values obtained in at least three independent experiments; EC50 values (in μM) were calculated from the mean pEC50. Cytotoxicity of the nitropyrroles was tested against human HeLa epithelial cells in a 48 h growth and survival assay, using AlamarBlue dye reduction as a read-out. Data are mean ± SE of the pCC50 values obtained in at least three independent experiments; CC50 values (in μM) were calculated from the mean pCC50. Compounds with no detectable cytotoxicity at the highest tested concentration (50 μM) are indicated with a pCC50 value of <4.30.