

Table 1: Time Metrics of tested OWL ontologies using parallel framework
(wall clock time (WCT) in seconds, timeout (TO) = 1000 seconds, Sequen = Sequential, Para = Parallel Framework)

#	Ontology	Concept	Expressivity	Precomputing		WCT		Speedup Factor
				Sequen	Parallel	Para	Hermit	
1	SocialUnits	156	$SHOIN(\mathcal{D})$	84.34	0.86	16.09	353.52	21.97
2	00021	156	$SHOIN(\mathcal{D})$	105.98	0.91	15.43	260.42	16.88
3	rnao.owl	240	$SRIQ$	1.16	0.29	3.06	109.99	35.94
4	tionmodule	256	$SHOIN(\mathcal{D})$	523.7	1.12	640	909.5	1.42
5	genetic	386	$SROIQ(\mathcal{D})$	671.9	8.80	31.17	530.31	17.01
6	WM30	415	$SROIQ(\mathcal{D})$	TO	0.74	TO	798.33	-
7	ainability	824	$SHOIN(\mathcal{D})$	6.06	0.14	0.91	15.41	16.93
8	sadiobjects	828	$ALN(\mathcal{D})$	0.66	0.49	2.53	4.42	1.75
9	Microbiota	868	$SHOIN(\mathcal{D})$	6.36	0.19	0.97	17.94	18.49
10	mfoem.emotion	902	$SROIQ$	35.11	0.88	2.77	42.11	15.20
11	onsumption	945	$ALCHOIQ(\mathcal{D})$	233.71	1.21	2.19	20.82	9.51
12	emistrycomplex	1,041	$SHIQ(\mathcal{D})$	12.43	0.61	8.53	14.19	1.66
13	nskisimple	1,737	$SRIQ(\mathcal{D})$	36.32	0.21	2.9	29.3	10.10
14	Earthquake	2,013	$SHOIN(\mathcal{D})$	20.53	0.68	7.73	14.77	1.91
15	geolOceanic	2,324	$SHOIN(\mathcal{D})$	23.80	0.55	1.38	12.03	8.72
16	landCoastal	2,660	$SHOIN(\mathcal{D})$	29.02	0.70	1.48	17.22	11.64
17	mergedobi	2,638	$SHOIN(\mathcal{D})$	351.05	0.96	TO	364.58	-
18	00350	2,638	$SHOIN(\mathcal{D})$	441.31	3.25	28.17	310.32	11.02
19	obi	2,750	$SROIQ(\mathcal{D})$	336.96	2.49	35.3	342.98	9.72
20	quanSpace	2,999	$SHOIN(\mathcal{D})$	145.83	0.42	38.21	380.11	9.95
21	EnergyFlux	3,008	$SHOIN(\mathcal{D})$	193.26	0.36	121	277.36	2.29
22	stateEnergy	3,018	$SHOIN(\mathcal{D})$	131.84	0.99	12.26	72.92	5.95
23	rDataModel	3,049	$SHOIN(\mathcal{D})$	136.57	1.32	68.3	757.11	11.09
24	virControl	3,274	$SHOIN(\mathcal{D})$	164.98	0.42	45.6	439.83	9.65
25	aksmetrics	3,889	$SHIQ(\mathcal{D})$	6.43	0.6	3.25	13.64	4.20
26	microbial.type	4,636	$SROIQ(\mathcal{D})$	304.34	0.51	26.67	308.73	11.58
27	MSC_classes	5,559	$ALCQ$	156.84	1.46	TO	TO	-
28	obo.PREVIOUS	6,580	$SRIQ$	378.09	0.55	311.8	646.11	2.07
29	obo.CURRENT	6,595	$SRIQ$	391.48	0.74	112.5	452.5	4.02
30	PREVIOUS	7,335	$SRIQ$	TO	1.79	TO	TO	-
31	SMOtop	7,782	$SHOIN(\mathcal{D})$	TO	32.41	432.7	TO	2.31
32	COSMO	7,804	$SHOIN(\mathcal{D})$	TO	33.42	728.6	TO	1.37
33	compatibility	7,929	$ALCIQ(\mathcal{D})$	37.78	0.63	20.15	22.23	1.10
34	EnzyO	8,223	$ALUIN(\mathcal{D})$	TO	1.74	TO	TO	-
35	natural.product	9,463	$SHOIN(\mathcal{D})$	67.89	2.16	98.72	11.21	0.11
36	vertebrate	18,092	$SRIQ$	TO	TO	TO	TO	-
37	temetazoan	32,750	$SRIQ$	TO	TO	TO	TO	-
38	ewasserted	63,848	$SRIQ$	TO	53.9	TO	TO	-
39	ersections	70,232	$SRIQ$	TO	TO	TO	TO	-
40	havioredit	99,399	$SRIQ$	TO	TO	TO	TO	-