

f0009:

W_Fdic:

the	: 344	semantic	: 207	and	: 155	of	: 144
minimum	: 106	link	: 106	to	: 104	is	: 100
cpsocio-sln	: 95	links	: 90	-rcb-	: 90	-lcb-	: 89
-lrb-	: 88	-rrb-	: 88	in	: 81	set	: 66
be	: 65	cover	: 55	can	: 53	graph	: 48
spanning	: 47	operations	: 40	that	: 39	are	: 38
closure	: 33	not	: 32	for	: 32	e2	: 31
we	: 31	on	: 31	reasoning	: 29	if	: 29
by	: 27	this	: 26	-lsb-	: 25	-rsb-	: 25
adding	: 25	new	: 24	should	: 24	basic	: 24
as	: 23	e1	: 22	e3	: 22	hence	: 22
operation	: 21	e5	: 21	resources	: 20	deleting	: 20
out	: 19	it	: 19	nodes	: 18	from	: 18
e4	: 18	characteristic	: 18	all	: 16	between	: 16
inter-resource	: 16	has	: 16	's	: 16	there	: 16
e10	: 15	maintenance	: 15	algorithm	: 15	every	: 14
e11	: 14	two	: 14	space	: 14	based	: 14
add	: 14	delete	: 14	an	: 14	other	: 14
following	: 13	its	: 13	then	: 13	one	: 13
evolution	: 13	after	: 13	node	: 13	inter-attribute	: 12
may	: 12	will	: 12	figure	: 11	process	: 11
network	: 11	have	: 11	any	: 11	also	: 11
deleted	: 11	physical	: 11	important	: 11	cyber	: 10
change	: 10	derived	: 10	?rst	: 10	e6	: 10
these	: 10	sln	: 10	same	: 10	rule	: 10
original	: 10	through	: 9	society	: 9	e7	: 9
which	: 9	attributes	: 9	rules	: 9	or	: 9
because	: 9	was	: 9	no	: 9	g1	: 8
web	: 8	addnode	: 8	e9	: 8	relation	: 8
must	: 8	de?nition	: 8	e12	: 8	cp-society	: 8
conformation	: 8	but	: 8	with	: 8	time	: 8
query	: 7	they	: 7	ek	: 7	e8	: 7
reasoned	: 7	semantics	: 7	determined	: 7	includes	: 7
added	: 7	graphs	: 7	circulation	: 7	relational	: 7
according	: 7	theorem	: 7	?nd	: 7	environment	: 6
networks	: 6	use	: 6	such	: 6	complexity	: 6
since	: 6	e.	: 6	reason	: 6	determining	: 6
their	: 6	were	: 6	addlink	: 6	only	: 6
strategy	: 6	characteristics	: 6	know	: 6	sequence	: 6
does	: 6	update	: 6	calculate	: 5	dellink	: 5
rdf	: 5	ontology	: 5	means	: 5	example	: 5
e.g.	: 5	high	: 5	shows	: 5	another	: 5
relations	: 5	do	: 5	been	: 5	proposed	: 5
unique	: 5	input	: 5	world	: 5	some	: 5
equivalent	: 5	subgraph	: 5	storage	: 5	structure	: 5
relationships	: 4	include	: 4	form	: 4	cost	: 4

more	: 4	information	: 4	into	: 4	used	: 4
shown	: 4	given	: 4	isolated	: 4	take	: 4
d2	: 4	d1	: 4	q.	: 4	approach	: 4
humans	: 4	nature	: 4	various	: 4	newaddlink	: 4
importance	: 4	in?uence	: 4	delnode	: 4	socio	: 4
different	: 4	things	: 4	ce	: 4	step	: 4
output	: 4	called	: 4	generating	: 4	users	: 4
a.	: 4	n1	: 4	n2	: 4	represent	: 3
leads	: 3	go	: 3	condition	: 3	among	: 3
what	: 3	social	: 3	m.	: 3	attribute	: 3
needs	: 3	how	: 3	transforming	: 3	types	: 3
third	: 3	element	: 3	mental	: 3	series	: 3
static	: 3	completeness	: 3	dynamicity	: 3	uses	: 3
rank	: 3	ef?cient	: 3	way	: 3	most	: 3
future	: 3	xml	: 3	addrule	: 3	implies	: 3
ability	: 3	both	: 3	hyperlink	: 3	empty	: 3
changed	: 3	find	: 3	ef?ciently	: 3	changes	: 3
when	: 3	obtain	: 3	delrule	: 3	intersection	: 3
save	: 3	interconnection	: 3	...	: 3	checking	: 3
follows	: 3	ruleid	: 3	discussed	: 3	introduced	: 3
pair	: 3	transform	: 3	check	: 3	cpsocio	: 3
dynamic	: 2	issues	: 2	helps	: 2	stable	: 2
very	: 2	g.	: 2	paternity	: 2	method	: 2
million	: 2	human	: 2	modify	: 2	equals	: 2
understanding	: 2	let	: 2	represented	: 2	knowledge	: 2
obtained	: 2	study	: 2	usually	: 2	studies	: 2
emerge	: 2	analyzing	: 2	until	: 2	brings	: 2
ef?ciency	: 2	proof	: 2	want	: 2	provide	: 2
six	: 2	maintain	: 2	holds	: 2	help	: 2
paper	: 2	24	: 2	machine	: 2	cpsocio-slms	: 2
them	: 2	worlds	: 2	term	: 2	found	: 2
related	: 2	in?uences	: 2	research	: 2	model	: 2
advantages	: 2	already	: 2	gmin	: 2	number	: 2
instances	: 2	indicate	: 2	system	: 2	too	: 2
relationship	: 2	part	: 2	10	: 2	16	: 2
distinguished	: 2	behaviors	: 2	need	: 2	identi?cation	: 2
satis?es	: 2	class	: 2	orderly	: 2	inconsistent	: 2
d3	: 2	updating	: 2	merged	: 2	get	: 2
roles	: 2	view	: 2	managing	: 2	conditions	: 2
ends	: 2	many	: 2	expression	: 2	simple	: 2
second	: 2	three	: 2	representative	: 2	value	: 2
result	: 2	complex	: 2	several	: 2	rfid	: 2
effect	: 2	thought	: 2	sets	: 2	using	: 2
previous	: 2	regard	: 2	community	: 2	proper	: 2
determine	: 2	support	: 2	describes	: 2	operating	: 2
storing	: 2	describe	: 2	covers	: 2	corresponding	: 2
exist	: 2	sl	: 2	virtual	: 2	calculating	: 2
assume	: 2	neighbors	: 1	limited	: 1	getclosure	: 1
existing	: 1	gn	: 1	saved	: 1	compose	: 1

updated	: 1	g2	: 1	orthogonal	: 1	disjoin	: 1
emphasizes	: 1	difference	: 1	entire	: 1	solves	: 1
brother	: 1	large	: 1	convenience	: 1	small	: 1
assimilates	: 1	smaller	: 1	consistent	: 1	discover	: 1
rate	: 1	link-based	: 1	implemented	: 1	giving	: 1
selected	: 1	self-adaptive	: 1	gi	: 1	above	: 1
net	: 1	metadata	: 1	satisfy	: 1	evolving	: 1
notions	: 1	exchange	: 1	join	: 1	www.w3.org/xml	: 1
here	: 1	deletenode	: 1	studied	: 1	queue	: 1
ontology-change	: 1	re?ect	: 1	useful	: 1	modifying	: 1
put	: 1	addressed	: 1	conjoint	: 1	tools	: 1
manipulate	: 1	languages	: 1	answered	: 1	browse	: 1
call	: 1	sharing	: 1	initiated	: 1	operators	: 1
carrying	: 1	capturing	: 1	evolves	: 1	coexist	: 1
labeled	: 1	harmonious	: 1	arcni	: 1	concepts	: 1
strategies	: 1	give	: 1	ecological	: 1	end	: 1
orthogonality	: 1	unites	: 1	s.	: 1	adjacent	: 1
answer	: 1	instead	: 1	explains	: 1	product	: 1
arcr	: 1	earlier	: 1	waves	: 1	meaningful	: 1
natural	: 1	investigates	: 1	light	: 1	so	: 1
keeps	: 1	re-maintaining	: 1	order	: 1	pointed	: 1
mainly	: 1	www.w3.org/2004/owl/	: 1	mentioned	: 1	existence	: 1
still	: 1	before	: 1	20	: 1	22	: 1
23	: 1	interesting	: 1	top-k	: 1	actually	: 1
estimating	: 1	parts	: 1	pervade	: 1	life-form	: 1
animal	: 1	views	: 1	cek	: 1	introduce	: 1
socio-natural	: 1	effects	: 1	compound	: 1	now	: 1
realize	: 1	maintaining	: 1	successor	: 1	hereafter	: 1
intelligent	: 1	establishing	: 1	merge	: 1	reasonable	: 1
each	: 1	friendship	: 1	em	: 1	domain	: 1
ei	: 1	connect	: 1	reached	: 1	assumption	: 1
event	: 1	internet	: 1	cause	: 1	theory	: 1
maintains	: 1	mechanisms	: 1	possibility	: 1	beginning	: 1
interaction	: 1	could	: 1	iterative	: 1	keep	: 1
conducted	: 1	place	: 1	incorporated	: 1	first	: 1
simplifying	: 1	carry	: 1	impossible	: 1	open	: 1
priority	: 1	annotated	: 1	service	: 1	data	: 1
anyone	: 1	friend	: 1	simulate	: 1	than	: 1
11	: 1	13	: 1	12	: 1	15	: 1
14	: 1	17	: 1	19	: 1	18	: 1
imply	: 1	recording	: 1	matter	: 1	store	: 1
classi?ed	: 1	browser	: 1	motivation	: 1	unchanged	: 1
randomly	: 1	say	: 1	www.w3.org/rdf	: 1	recover	: 1
relatively	: 1	attribute-based	: 1	built	: 1	latter	: 1
note	: 1	ideal	: 1	deletelinkupdate	: 1	peer-to-peer	: 1
worldwide	: 1	play	: 1	multiple	: 1	object	: 1
satisfying	: 1	connected	: 1	services	: 1	capacity	: 1
intrinsic	: 1	operate	: 1	originaladdlink	: 1	sometimes	: 1
re?ecting	: 1	text	: 1	obtains	: 1	bring	: 1

radio	: 1	ereasoning	: 1	e14	: 1	cross-platform	: 1
explicitly	: 1	hypertext	: 1	predecessor	: 1	handle	: 1
overall	: 1	determines	: 1	areas	: 1	resource	: 1
remove	: 1	investigate	: 1	common	: 1	queries	: 1
where	: 1	questions	: 1	exists	: 1	see	: 1
philosophy	: 1	detect	: 1	on-demand	: 1	visiting	: 1
smallest	: 1	routing	: 1	discovery	: 1	deletions	: 1
never	: 1	terms	: 1	extend	: 1	missing	: 1
component	: 1	however	: 1	p2p	: 1	suggested	: 1
self-organizing	: 1	minds	: 1	otherwise	: 1	large-scale	: 1
had	: 1	environments	: 1	simply	: 1	sequences	: 1
described	: 1	addition	: 1	create	: 1	much	: 1
waste	: 1	life	: 1	enable	: 1	versa	: 1
self-organized	: 1	formed	: 1	else	: 1	modi?ed	: 1
deepen	: 1	general	: 1	former	: 1	applied	: 1
re?ects	: 1	developing	: 1	characterizing	: 1	enriching	: 1
equal	: 1	itself	: 1	triple	: 1	make	: 1
clearly	: 1	emphasize	: 1	deletion	: 1	development	: 1
evolve	: 1	extended	: 1	reversion	: 1	levels	: 1
purpose	: 1	build	: 1	tracking	: 1	older	: 1
builder	: 1	variety	: 1	analysis	: 1	obviously	: 1
person	: 1	directly	: 1	costs	: 1	less	: 1
stored	: 1	atomic	: 1	yet	: 1	regarded	: 1
point	: 1	initialize	: 1	except	: 1	transformed	: 1
addrules	: 1	easily	: 1	execute	: 1	early	: 1
grid	: 1	background	: 1	execution	: 1	harmoniously	: 1
necessary	: 1	agents	: 1	essential	: 1	ecology	: 1
understand	: 1	easy	: 1	economic	: 1	recognition	: 1
gradually	: 1	redo	: 1	extensively	: 1	select	: 1
assuming	: 1	?ows	: 1	chains	: 1	core	: 1
communicate	: 1	expansion	: 1	i.e.	: 1	refers	: 1
about	: 1	eco-grid	: 1	people	: 1	meaning	: 1
union	: 1	automatically	: 1	owl	: 1	inclusion	: 1
image	: 1	due	: 1	appropriate	: 1	additions	: 1
quickly	: 1	networking	: 1	log	: 1	queried	: 1
long	: 1	terminates	: 1	function	: 1	complete	: 1
differences	: 1	younger	: 1	speci?es	: 1	understandable	: 1
removed	: 1	versatile	: 1	places	: 1	whether	: 1
radio-frequency	: 1	record	: 1	growth	: 1	represents	: 1
suf?cient	: 1	problem	: 1	etc.	: 1	proved	: 1
consanguinity	: 1	universal	: 1	initial	: 1	at	: 1
compared	: 1	role	: 1	conclusion	: 1	ecosystem	: 1
kinds	: 1	generated	: 1	aggregated	: 1	building	: 1
markup	: 1	designers	: 1	lead	: 1	vice	: 1
age	: 1	implied	: 1	demonstrates	: 1	determination	: 1

WP_Fdic:

['the', 'DT']

: 344

['semantic', 'JJ']

: 194

['and', 'CC']

: 153

['of', 'IN']	: 144	['to', 'TO']	: 103	['is', 'VBZ']	: 100
['link', 'NN']	: 100	['links', 'NNS']	: 88	['-lrb-', '-LRB-']	: 88
['-rrb-', '-RRB-']	: 87	['minimum', 'JJ']	: 86	['-rcb-', '-RRB-']	: 86
['-lcb-', '-LRB-']	: 85	['in', 'IN']	: 80	['be', 'VB']	: 65
['cover', 'NN']	: 53	['can', 'MD']	: 53	['graph', 'NN']	: 48
['set', 'NN']	: 48	['cpsocio-sln', 'NNP']	: 46	['cpsocio-sln', 'NN']	: 39
['are', 'VBP']	: 38	['operations', 'NNS']	: 38	['for', 'IN']	: 32
['not', 'RB']	: 32	['we', 'PRP']	: 31	['closure', 'NN']	: 31
['on', 'IN']	: 31	['if', 'IN']	: 29	['reasoning', 'NN']	: 28
['by', 'IN']	: 27	['this', 'DT']	: 26	['should', 'MD']	: 24
['spanning', 'JJ']	: 24	['basic', 'JJ']	: 24	['new', 'JJ']	: 23
['adding', 'VBG']	: 22	['operation', 'NN']	: 21	['as', 'IN']	: 21
['hence', 'RB']	: 21	['resources', 'NNS']	: 20	['that', 'WDT']	: 19
['it', 'PRP']	: 19	['-rsb-', 'NNS']	: 19	['that', 'IN']	: 19
['from', 'IN']	: 18	['minimum', 'NN']	: 18	['nodes', 'NNS']	: 18
['out', 'RP']	: 18	['between', 'IN']	: 16	['inter-resource', 'JJ']	: 16
['spanning', 'VBG']	: 16	['there', 'EX']	: 16	['has', 'VBZ']	: 16
['s', 'POS']	: 15	['deleting', 'VBG']	: 15	['e2', 'NNP']	: 14
['an', 'DT']	: 14	['two', 'CD']	: 14	['based', 'VBN']	: 14
['space', 'NN']	: 14	['other', 'JJ']	: 14	['every', 'DT']	: 14
['after', 'IN']	: 13	['its', 'PRP\$']	: 13	['evolution', 'NN']	: 13
['then', 'RB']	: 13	['e3', 'NNS']	: 12	['will', 'MD']	: 12
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['also', 'RB']	: 11	['delete', 'VB']	: 10	['one', 'CD']	: 10
['these', 'DT']	: 10	['derived', 'VBN']	: 10	['same', 'JJ']	: 10
['deleted', 'VBN']	: 10	['add', 'VB']	: 10	['sln', 'NNP']	: 9
['or', 'CC']	: 9	['which', 'WDT']	: 9	['e5', 'NNS']	: 9
['no', 'DT']	: 9	['following', 'VBG']	: 9	['through', 'IN']	: 9
['network', 'NN']	: 9	['original', 'JJ']	: 9	['cpsocio-sln', 'JJ']	: 9
['was', 'VBD']	: 9	['rule', 'NN']	: 9	['attributes', 'NNS']	: 8
['rules', 'NNS']	: 8	['with', 'IN']	: 8	['semantic', 'NNP']	: 8
['e4', 'NNS']	: 8	['but', 'CC']	: 8	['time', 'NN']	: 8
['g1', 'NNP']	: 8	['-lsb-', 'CD']	: 8	['-lsb-', 'NNP']	: 8
['must', 'MD']	: 8	['graphs', 'NNS']	: 7	['e10', 'NNS']	: 7
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['semantics', 'NNS']	: 7	['they', 'PRP']	: 7	['?nd', 'VB']	: 7
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['e11', 'NNS']	: 6	['e6', 'NNS']	: 6	['strategy', 'NN']	: 6
['theorem', 'NN']	: 6	['relational', 'JJ']	: 6	['environment', 'NN']	: 6
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['determining', 'JJ']	: 5	['rdf', 'NNP']	: 5	['high', 'JJ']	: 5
['calculate', 'VB']	: 5	['physical', 'NNP']	: 5	['proposed', 'VBN']	: 5
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['another', 'DT']	: 5	['cp-society', 'NNP']	: 5	['been', 'VBN']	: 5
['physical', 'JJ']	: 5	['sequence', 'NN']	: 5	['means', 'VBZ']	: 5
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['subgraph', 'NN']	: 5	['storage', 'NN']	: 5	['reason', 'VB']	: 5
['change', 'VB']	: 5	['because', 'IN']	: 5	['e12', 'NNS']	: 5
['e.', 'NN']	: 5	['characteristic', 'NNP']	: 5	['unique', 'JJ']	: 5
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['-lcb-', 'NNP']	: 4	['relations', 'NNS']	: 4	['link', 'NNP']	: 4
['because', 'RB']	: 4	['importance', 'NN']	: 4	['q.', 'NNP']	: 4
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['various', 'JJ']	: 4	['different', 'JJ']	: 4	['cyber', 'NN']	: 4
['add', 'VBP']	: 4	['update', 'VB']	: 4	['newaddlink', 'NNP']	: 4
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['e8', 'NNS']	: 3	['e4', 'JJ']	: 3	['socio', 'NNP']	: 3
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['take', 'VB']	: 3	['find', 'VB']	: 3	['ef?ciently', 'RB']	: 3
['dynamicity', 'NN']	: 3	['types', 'NNS']	: 3	['condition', 'NN']	: 3
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['ef?cient', 'JJ']	: 2	['previous', 'JJ']	: 2	['ends', 'VBZ']	: 2
['virtual', 'JJ']	: 2	['machine', 'NN']	: 2	['network', 'NNP']	: 2

['already', 'RB']	: 2	['cover', 'VBP']	: 2	['six', 'CD']	: 2
['support', 'VB']	: 2	['emerge', 'VB']	: 2	['let', 'VB']	: 2
['three', 'CD']	: 2	['satis?es', 'VBZ']	: 2	['method', 'NN']	: 2
['storing', 'VBG']	: 2	['more', 'RBR']	: 2	['adding', 'VB']	: 2
['rfid', 'NNP']	: 2	['more', 'JJR']	: 2	['ell', 'CD']	: 2
['do', 'VB']	: 2	['modify', 'VB']	: 2	['society', 'NNP']	: 2
['mental', 'JJ']	: 2	['deleting', 'NNP']	: 2	['step', 'VB']	: 2
['e4', 'CD']	: 2	['e.g.', 'NN']	: 2	['check', 'VB']	: 2
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W_Pdic:

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dynamic	: ['JJ']	existing	: ['VBG']
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condition	: ['NN']	entire	: ['JJ']
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small	: ['JJ']	assimilates	: ['JJ']
deleting	: ['VB', 'VBZ', 'VBG', 'NNP', 'JJ']	smaller	: ['JJR']
be	: ['VB']	consistent	: ['JJ']
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giving	: ['VBG']	selected	: ['VBN']
networks	: ['NNS']	self-adaptive	: ['JJ']
gi	: ['NNP']	above	: ['JJ']
new	: ['JJ', 'NNP']	net	: ['NN']
method	: ['NN']	metadata	: ['NN']
satisfy	: ['VB']	evolving	: ['VBG']
million	: ['CD']	notions	: ['NNS']
exchange	: ['NN']	join	: ['VBP']
human	: ['NN', 'JJ']	www.w3.org/xml	: ['NNP']
modify	: ['VB']	equals	: ['VBZ']
here	: ['RB']	understanding	: ['NN', 'VBG']
deletenode	: ['NN']	let	: ['VB']
web	: ['NN', 'NNP']	represented	: ['VBN']
change	: ['NNP', 'VBP', 'VB', 'NN']	knowledge	: ['NN', 'NNP']
obtained	: ['VBN']	addnode	: ['NNP', 'NN']
study	: ['NN', 'VB']	studied	: ['VBN']
queue	: ['VB']	e11	: ['NN', 'JJ', 'NNS', 'CD', 'NNP', 'NNPS']
rdf	: ['NNP']	social	: ['JJ']
usually	: ['RB']	e9	: ['NNP', 'NNS', 'JJ']
ontology-change	: ['JJ']	studies	: ['NNS', 'VBZ']
relation	: ['NNP', 'NN', 'VBZ']	re?ect	: ['VB']
emerge	: ['VB']	useful	: ['JJ']
figure	: ['NN', 'NNP', 'NNS']	modifying	: ['VB']
put	: ['VBN']	addressed	: ['VBN']
analyzing	: ['VBG']	conjoint	: ['JJ']
tools	: ['NNS']	manipulate	: ['VB']
languages	: ['NNS']	use	: ['NN', 'VB', 'VBP']
ontology	: ['JJ', 'RB', 'NN']	from	: ['IN']
links	: ['NNS', 'VBZ', 'NN']	answered	: ['VBN']
browse	: ['VB']	e1	: ['NNS', 'VB', 'NNP', 'CD', 'RB', 'NNPS', 'JJ']
m.	: ['NNP', 'NN', 'VBN']	two	: ['CD']
call	: ['VB']	means	: ['VBZ']
until	: ['IN']	more	: ['JJR', 'RBR']
sharing	: ['VBG']	initiated	: ['VBN']

brings	: ['VBZ']	operators	: ['NNP']
carrying	: ['VB']	capturing	: ['VBG']
must	: ['MD']	evolves	: ['VBZ']
ef?ciency	: ['NN']	this	: ['DT']
coexist	: ['NN']	labeled	: ['JJ']
harmonious	: ['JJ']	can	: ['MD']
arcni	: ['NNP']	concepts	: ['NNS']
following	: ['JJ', 'VBG']	strategies	: ['NNS']
example	: ['NN']	proof	: ['NNP']
e.g.	: ['NN', 'RB', 'NNP']	give	: ['VB']
process	: ['NN']	attribute	: ['NNP', 'NN']
high	: ['JJ']	minimum	: ['NNP', 'JJ', 'NN', 'VBN']
want	: ['VBP']	spanning	: ['JJ', 'VBG', 'CD', 'NNP', 'VBZ', 'NN', 'VBN']
ecological	: ['JJ']	information	: ['NN']
needs	: ['VBZ', 'NNS']	end	: ['VBZ']
provide	: ['VB']	six	: ['CD']
orthogonality	: ['VB']	how	: ['WRB']
unites	: ['VBZ']	s.	: ['NNP']
adjacent	: ['JJ']	answer	: ['VB']
instead	: ['RB']	explains	: ['VBZ']
product	: ['NN']	arcr	: ['NNP']
transforming	: ['VBG']	earlier	: ['JJR']
derived	: ['VBN']	de?nition	: ['NN', 'NNP']
waves	: ['NNS']	such	: ['JJ']
meaningful	: ['JJ']	types	: ['NNS']
?rst	: ['JJ', 'VBP', 'NN', 'VB']	natural	: ['JJ']
third	: ['JJ']	investigates	: ['VBZ']
light	: ['NN']	element	: ['NN', 'VBG']
complexity	: ['NN']	maintain	: ['VB']
so	: ['RB']	keeps	: ['VBZ']
re-maintaining	: ['JJ']	order	: ['NN']
operations	: ['NNS', 'NNP']	holds	: ['VBZ']
help	: ['VB']	pointed	: ['VBN']
mainly	: ['RB']	www.w3.org/2004/owl/	: ['NNP']
paper	: ['NN']	through	: ['IN']
mentioned	: ['JJ']	existence	: ['NN']
still	: ['RB']	its	: ['PRP\$']
before	: ['RB']	24	: ['CD']
machine	: ['NN']	cpsocio-slms	: ['NNS']
20	: ['CD']	22	: ['CD']
23	: ['CD']	interesting	: ['JJ']
top-k	: ['NN']	actually	: ['RB']
estimating	: ['VBG']	parts	: ['NNS']
pervade	: ['VBP']	life-form	: ['NN']
into	: ['IN']	then	: ['RB']
them	: ['PRP']	animal	: ['NN']
views	: ['VBZ']	cek	: ['NNP']
introduce	: ['VB']	socio-natural	: ['NNP']
effects	: ['NNS']	they	: ['PRP']

compound	: ['JJ']	not	: ['RB']
now	: ['RB']	realize	: ['VB']
maintaining	: ['VBG']	successor	: ['NN']
worlds	: ['NNS']	term	: ['NN']
hereafter	: ['RB']	intelligent	: ['NNP']
establishing	: ['VBG']	merge	: ['VB']
-lsb-	: ['CD', 'NNP', 'VBG', 'NNS', 'VBZ', 'NN']	reasonable	: ['JJ']
each	: ['DT']	found	: ['VBN']
friendship	: ['NN']	em	: ['PRP']
domain	: ['NN']	ei	: ['NNP']
mental	: ['JJ', 'VBD']	ek	: ['NN']
series	: ['NN']	related	: ['VBN']
society	: ['NNP', 'NN']	used	: ['VBN']
static	: ['JJ']	connect	: ['VB']
reached	: ['VBN']	assumption	: ['NN']
operation	: ['NN']	event	: ['NN']
influences	: ['NNS', 'VBZ']	out	: ['RP', 'IN']
shown	: ['VBN']	network	: ['NN', 'NNP']
space	: ['NN']	since	: ['IN']
research	: ['NN']	may	: ['MD']
internet	: ['NN']	completeness	: ['NNS']
cause	: ['NN']	shows	: ['VBZ']
model	: ['NN']	e.	: ['NN', 'NNP']
theory	: ['NN']	maintains	: ['VBZ']
mechanisms	: ['NNS']	possibility	: ['NN']
reason	: ['VB', 'NN']	advantages	: ['NNS']
e8	: ['NNP', 'NNS', 'JJ', 'CD']	e5	: ['NNP', 'JJ', 'NNS', 'CD', 'VBZ', 'NNPS', 'FW', 'NN']
e4	: ['NNS', 'JJ', 'CD', 'NNP', 'VBZ', 'NNPS']	e7	: ['NNS', 'NNP', 'JJ', 'CD']
e6	: ['NNS', 'NNP', 'JJ', 'NN']	beginning	: ['NN']
e3	: ['NNS', 'JJ', 'CD', 'NNP', 'RB', 'NNPS']	e2	: ['NNS', 'NNP', 'CD', 'RB', 'VBZ', 'NNPS', 'JJ']
interaction	: ['NNS']	determining	: ['JJ', 'VBG']
could	: ['MD']	iterative	: ['JJ']
keep	: ['VB']	conducted	: ['VBN']
dynamicity	: ['NN']	place	: ['NN']
incorporated	: ['VBN']	hence	: ['RB', 'NNP']
uses	: ['VBZ']	cpsocio-sln	: ['NNP', 'JJ', 'NN', 'VBG']
first	: ['RB']	already	: ['RB']
gmin	: ['VB', 'NNP']	number	: ['NN']
rank	: ['NN']	one	: ['CD', 'NN']
instances	: ['NNP', 'NNS']	another	: ['DT']
simplifying	: ['VBG']	carry	: ['VB']
impossible	: ['JJ']	open	: ['JJ']
priority	: ['NN']	given	: ['VBN']
annotated	: ['RB']	service	: ['NN']
indicate	: ['VBP', 'VB']	data	: ['NNS']
system	: ['NN']	relations	: ['NNS', 'NNPS']
anyone	: ['NN']	their	: ['PRP\$']
too	: ['RB']	reasoned	: ['VBN', 'VBG']
friend	: ['NN']	efficient	: ['JJ', 'NN']

way	: ['NN']	relationship	: ['NN']
that	: ['IN', 'WDT', 'DT']	part	: ['NN']
simulate	: ['VB']	than	: ['IN']
semantics	: ['NNS']	11	: ['CD']
10	: ['CD']	13	: ['CD']
12	: ['CD']	15	: ['CD']
14	: ['CD']	17	: ['CD']
16	: ['CD']	19	: ['CD']
18	: ['CD']	imply	: ['VB']
recording	: ['VBG']	matter	: ['NN']
determined	: ['VBN']	store	: ['VB']
were	: ['VBD']	distinguished	: ['VBN', 'JJ']
classified	: ['VBN']	browser	: ['NNP']
behaviors	: ['NNS']	motivation	: ['NN']
unchanged	: ['JJ']	randomly	: ['RB']
say	: ['VBP']	www.w3.org/rdf	: ['NNP']
have	: ['VB', 'VBP']	need	: ['VBP']
addlink	: ['NNP', 'NN']	recover	: ['VB']
any	: ['DT']	relatively	: ['RB']
includes	: ['VBZ']	attribute-based	: ['JJ']
built	: ['VBN']	latter	: ['NN']
isolated	: ['VBN', 'JJ']	note	: ['NN']
also	: ['RB']	ideal	: ['NN']
take	: ['VBP', 'VB']	which	: ['WDT']
deletelinkupdate	: ['NNP']	peer-to-peer	: ['JJ']
worldwide	: ['JJ']	play	: ['VB']
added	: ['VBN']	multiple	: ['JJ']
object	: ['NN']	identi?cation	: ['NN']
satisfies	: ['VBZ']	most	: ['RBS']
satisfying	: ['VBG']	connected	: ['VBN']
services	: ['NNS']	capacity	: ['NN']
future	: ['JJ']	intrinsic	: ['JJ']
class	: ['NNPS', 'NNP']	operate	: ['VB']
originaladdlink	: ['NNP']	sometimes	: ['RB']
cover	: ['VBP', 'NN']	graphs	: ['NNS']
orderly	: ['JJ']	circulation	: ['NN']
link	: ['NN', 'NNP', 'VB', 'VBP']	reflecting	: ['VBG']
text	: ['NN']	obtains	: ['VBZ']
bring	: ['VB']	radio	: ['NN']
inconsistent	: ['JJ']	d2	: ['CD', 'NNS']
d3	: ['NNS']	d1	: ['CD', 'NNS']
xml	: ['NN', 'NNP']	based	: ['VBN']
reasoning	: ['NNP']	addrule	: ['NNP']
e10	: ['NN', 'NNS', 'JJ', 'CD', 'NNP', 'NNPS']	e12	: ['NNS', 'CD', 'NNP']
e14	: ['NNS']	cross-platform	: ['JJ']
should	: ['MD']	only	: ['RB']
explicitly	: ['RB']	updating	: ['VBG']
hypertext	: ['NN']	merged	: ['VBN', 'JJ']
q.	: ['NNP']	predecessor	: ['NN']

do	: ['VBP', 'VB']	handle	: ['VB']
get	: ['VB']	overall	: ['JJ']
relational	: ['JJ', 'NN']	determines	: ['VBZ']
areas	: ['NNS']	closure	: ['NN', 'NNP', 'VB']
evolution	: ['NN']	resource	: ['NN']
roles	: ['NNS']	approach	: ['NN', 'VB']
remove	: ['VB']	investigate	: ['VB']
common	: ['JJ']	queries	: ['NNS']
where	: ['WRB']	view	: ['NN', 'VBP']
set	: ['NN', 'VB', 'VBN', 'VBD']	questions	: ['NNS']
exists	: ['VBZ']	implies	: ['VBZ']
humans	: ['NNS']	we	: ['PRP']
see	: ['VB']	are	: ['VBP']
-rsb-	: ['NNS', 'CD', 'JJ', 'NN', 'NNP', 'RB']	philosophy	: ['NN']
detect	: ['VB']	on-demand	: ['JJ']
visiting	: ['VBG']	managing	: ['VBG']
-rcb-	: ['JJ', '-RRB-', 'VBZ', 'NN']	nature	: ['NN']
smallest	: ['JJS']	various	: ['JJ']
routing	: ['VBG']	between	: ['IN']
inter-resource	: ['JJ']	conditions	: ['NNS']
discovery	: ['NN']	deletions	: ['NNS']
newaddlink	: ['NNP']	ends	: ['VBZ']
never	: ['RB']	terms	: ['NNS']
ability	: ['NN']	extend	: ['VB']
missing	: ['VBG']	importance	: ['NN']
component	: ['NN']	however	: ['RB']
p2p	: ['NNP']	suggested	: ['VBN']
both	: ['PDT', 'DT']	hyperlink	: ['NN']
many	: ['JJ']	self-organizing	: ['JJ']
according	: ['VBG']	minds	: ['NNS']
attributes	: ['NNPS', 'NNS']	expression	: ['VB', 'NN']
otherwise	: ['RB']	and	: ['CC', 'NNP']
large-scale	: ['JJ']	simple	: ['JJ']
had	: ['VBD']	environments	: ['NNS']
simply	: ['RB']	sequences	: ['NNS']
described	: ['VBN']	second	: ['JJ', 'LS']
addition	: ['NN']	create	: ['VB']
three	: ['CD']	been	: ['VBN']
strategy	: ['NN']	much	: ['JJ']
maintenance	: ['NN', 'VB', 'NNP']	basic	: ['JJ']
waste	: ['NN']	empty	: ['JJ']
life	: ['NN']	enable	: ['VB']
influence	: ['VB', 'JJ', 'NN']	versa	: ['RB']
self-organized	: ['JJ']	delnode	: ['NNP', 'NNS']
formed	: ['VBN']	else	: ['RB']
modified	: ['VBN']	representative	: ['NN']
deepen	: ['VB']	general	: ['JJ']
former	: ['JJ']	applied	: ['VBN']
has	: ['VBZ']	reflects	: ['VBZ']

developing	: ['VBG']	these	: ['DT']
value	: ['NN']	will	: ['MD']
sln	: ['NNP', 'NN']	socio	: ['NNP', 'NN']
characterizing	: ['VBG']	changed	: ['VBN']
find	: ['VB']	enriching	: ['VBG']
characteristics	: ['NNS']	is	: ['VBZ']
it	: ['PRP']	equal	: ['JJ']
itself	: ['PRP']	triple	: ['JJ']
in	: ['IN', 'RB']	if	: ['IN']
result	: ['NN']	different	: ['JJ']
things	: ['NNS']	make	: ['VB']
same	: ['JJ']	clearly	: ['RB']
rules	: ['NNS', 'NNPS']	complex	: ['JJ']
emphasize	: ['VB']	deletion	: ['NN']
several	: ['JJ']	development	: ['NN']
evolve	: ['VB']	extended	: ['VBN']
cp-society	: ['NNP', 'NN']	reversion	: ['NNP']
rfid	: ['NNP']	effect	: ['NN']
levels	: ['NNS']	efficiently	: ['RB']
purpose	: ['NN']	build	: ['VB']
tracking	: ['NN']	older	: ['JJR']
changes	: ['NNS']	builder	: ['NNP']
variety	: ['NN']	analysis	: ['NN']
obviously	: ['RB']	thought	: ['VBD', 'NNP']
person	: ['NN']	directly	: ['RB']
costs	: ['VBZ']	sets	: ['NNS']
the	: ['DT']	know	: ['VBP', 'VB']
ce	: ['NNP']	proposed	: ['VBN']
less	: ['JJR']	when	: ['WRB']
obtain	: ['VB']	stored	: ['VBN']
atomic	: ['JJ']	delrule	: ['NNP']
using	: ['VBG']	yet	: ['CC']
previous	: ['JJ']	adding	: ['VBG', 'VB', 'VBZ']
unique	: ['JJ']	regarded	: ['VBN']
point	: ['NN']	initialize	: ['VB']
except	: ['IN']	add	: ['VBP', 'VB']
transformed	: ['VBN']	addrules	: ['VBZ']
theorem	: ['NN', 'NNP']	input	: ['NNP', 'NN']
intersection	: ['NN', 'VBN']	save	: ['VB']
interconnection	: ['NN']	...	: ['CD', ':']
easily	: ['RB']	checking	: ['VBG']
regard	: ['VBP', 'VB']	execute	: ['VB']
early	: ['RB']	grid	: ['NNP']
community	: ['NN']	background	: ['NN']
world	: ['NN']	execution	: ['NN']
harmoniously	: ['RB']	necessary	: ['JJ']
follows	: ['VBZ']	agents	: ['NNS']
essential	: ['JJ']	ecology	: ['NNP']
sequence	: ['NNP', 'NN']	understand	: ['VB']

easy	: ['VB']	some	: ['DT']
economic	: ['JJ']	proper	: ['JJ']
's	: ['POS', 'VBZ']	recognition	: ['NN']
gradually	: ['RB']	for	: ['IN']
ruleid	: ['NNP']	redo	: ['VB']
extensively	: ['RB']	does	: ['VBZ']
select	: ['VB']	assuming	: ['VBG']
?ows	: ['NNS']	chains	: ['NNS']
core	: ['NN']	deleted	: ['VBN', 'JJ']
equivalent	: ['NN', 'JJ']	communicate	: ['VB']
conformation	: ['NNP', 'NN']	expansion	: ['NN']
update	: ['VBZ', 'NN', 'VB']	step	: ['VB', 'NN']
output	: ['NN']	i.e.	: ['RB']
refers	: ['VBZ']	by	: ['IN']
after	: ['IN']	on	: ['IN']
about	: ['IN']	eco-grid	: ['NN']
people	: ['NNS']	of	: ['IN']
discussed	: ['VBN']	meaning	: ['NN']
union	: ['NN']	introduced	: ['VBN', 'VBD']
or	: ['CC']	automatically	: ['RB']
owl	: ['NNP']	inclusion	: ['NN']
image	: ['NN']	due	: ['JJ']
pair	: ['NN']	appropriate	: ['JJ']
because	: ['RB', 'IN']	determine	: ['VB']
additions	: ['NNS']	quickly	: ['RB']
?nd	: ['VB']	networking	: ['NN']
log	: ['NN']	queried	: ['VBN']
support	: ['VB']	there	: ['EX']
transform	: ['VB']	long	: ['RB']
describes	: ['VBZ']	terminates	: ['VBZ']
was	: ['VBD']	function	: ['NN']
complete	: ['JJ']	subgraph	: ['NN']
differences	: ['NNS']	younger	: ['JJR']
but	: ['CC']	speci?es	: ['VBZ']
understandable	: ['JJ']	-lrb-	: ['-LRB-']
removed	: ['VBN']	with	: ['IN']
versatile	: ['NN']	operating	: ['VBG']
places	: ['NNS']	whether	: ['IN']
characteristic	: ['NN', 'NNP', 'JJ']	radio-frequency	: ['JJ']
record	: ['VB']	growth	: ['NN']
represents	: ['VBZ']	suf?cient	: ['JJ']
problem	: ['NN']	etc.	: ['FW']
called	: ['VBN']	delete	: ['VB', 'VBP']
storing	: ['VBG']	proved	: ['VBN']
-rrb-	: ['-RRB-', 'NNS']	consanguinity	: ['RB']
universal	: ['JJ']	describe	: ['VB']
generating	: ['VBG', 'VBZ']	covers	: ['NNS']
an	: ['DT']	as	: ['IN', 'RB']
initial	: ['JJ']	at	: ['IN']

corresponding	: ['JJ']	exist	: ['VB']
check	: ['VB', 'VBG']	physical	: ['NNP', 'JJ', 'VBD']
compared	: ['VBN']	-lcb-	: ['-LRB-', 'NNP']
sl	: ['NN', 'NNP']	no	: ['DT']
storage	: ['NN']	virtual	: ['JJ']
other	: ['JJ']	role	: ['NN']
conclusion	: ['NN']	node	: ['NN', 'JJ']
ecosystem	: ['NN']	kinds	: ['NNS']
users	: ['NNS']	calculating	: ['VBG']
cpsocio	: ['NNP']	time	: ['NN']
a.	: ['NN']	generated	: ['VBN']
important	: ['JJ']	n1	: ['NNS', 'JJ']
aggregated	: ['VBN']	structure	: ['NN']
building	: ['VBG']	markup	: ['NN']
designers	: ['NNS']	lead	: ['VB']
algorithm	: ['NN', 'NNP', 'VBG']	vice	: ['RB']
assume	: ['VB']	age	: ['NN']
rule	: ['VB', 'NN']	implied	: ['VBN']
demonstrates	: ['VBZ']	determination	: ['NN']
n2	: ['NNS', 'JJ']	original	: ['JJ', 'NNP']