Network analysis of the PD map: Simple path analysis

Integrating pathways of Parkinson's disease in a molecular interaction map

Molecular Neurobiology

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Supplementary Table 3: Simple path analysis of the PD map

This file contains the list of PD map elements prioritized according to their participation in dysregulation of PD-associated pathways discussed in the manuscript.

Mitochondrial dysfunction

Species Name	Scores
Number of Species	**298**
'Mitochondrial dysfunction(default)'	591
'Succinate dehydrogenase (complex II)(Mitochondrial Inner membrane)'	345.136467
'Succinate(Mitochondrial Inner membrane)'	343.750528
'L-Malate (Mitochondrial Inner membrane)'	340.368085
'H+(Mitochondrial Inner membrane)'	335.703879
'Fumarate (Mitochondrial Inner membrane)'	334.18274
'Succinate dehydrogenase (complex II)(Mitochondrial Inner membrane)'	332.654367
'Oxaloacetate (Mitochondrial Inner membrane)'	317.835504
'CoA-SH(Mitochondrial Inner membrane)'	309.146081
'Isocitrate(Mitochondrial Inner membrane)'	308.639065
'Citrate(Mitochondrial Inner membrane)'	307.621824
'Succinyl-CoA(Mitochondrial Inner membrane)'	292.325239
'ADP(cytosol)'	292.14157
'Orthophosphate(Mitochondrial Inner membrane)'	291.577172
'CO2(Mitochondrial Inner membrane)'	287.408263
'L-methylmalonyl-CoA(Mitochondrial Inner membrane)'	283.07174
'D-methylmalonyl-CoA(Mitochondrial Inner membrane)'	281.07174
'Acetyl-CoA(Mitochondrial Inner membrane)'	275.374177
'L-Lactate (cytosol)'	275.243212
'ROS(Mitochondrial Inner membrane)'	273.847667
'Pyruvate (cytosol)'	272.092393
'ATP(cytosol)'	269.741426
'HMG CoA(Mitochondrial Inner membrane)'	264.976138
'2-3-Bisphospho-D-glycerate(cytosol)'	252.050966
'3-Phospho-D-glycerate(cytosol)'	246.67852
'NADH(cytosol)'	246.660792
'2-Phospho-D-glycerate(cytosol)'	245.76199
'1-3-Bisphospho-D-glycerate(cytosol)'	245.391149
'NAD+(cytosol)'	241.799338
'Phosphoenolpyruvate(cytosol)'	240.709618
'NADH(Mitochondrial Inner membrane)'	237.812574
'Orthophosphate(cytosol)'	233.956997
'ATP(Mitochondrial Inner membrane)'	233.448851
'acetoacetate(Mitochondrial Inner membrane)'	232.715666
'D-Glyceraldehyde 3-phosphate(cytosol)'	232.159696
'H+(cytosol)'	229.952739
'EPB41L1(cytosol)'	229.404165
'AKAP5(cytosol)'	227.09783
'Pyruvate (Mitochondrial Inner membrane)'	222.803133
'L-Lactate (default)'	215.915895
'H2O2(Mitochondrial Inner membrane)'	194.277097
'acetoacetyl-CoA(Mitochondrial Inner membrane)'	191.625197

'D-beta hydroxybutyrate(Mitochondrial Inner membrane)'	179.095925
'Acetyl-CoA (Mitochondrial Inner membrane)'	178.09543
'ADP(Mitochondrial Inner membrane)'	175.022629
'(S)-Hydroxydecanoyl-CoA(Mitochondrial Inner membrane)'	168.828739
'trans-Dec-2-enoyl-CoA(Mitochondrial Inner membrane)'	167.627329
'(S)-Hydroxyhexanoyl-CoA(Mitochondrial Inner membrane)'	164.053318
'Acetoacetate(Mitochondrial Inner membrane)'	163.382831
'trans-Hex-2-enoyl-CoA(Mitochondrial Inner membrane)'	162.851901
'Hexanoyl-CoA(Mitochondrial Inner membrane)'	160.858845
'NAD+(Mitochondrial Inner membrane)'	156.993638
'3-Oxodecanoyl-CoA(Mitochondrial Inner membrane)'	150.172078
'Butanoyl-CoA(Mitochondrial Inner membrane)'	134.248971
'3-trans-decenoyl-CoA(Mitochondrial Inner membrane)'	133.418785
'3-Oxohexanoyl-CoA(Mitochondrial Inner membrane)'	129.792485
'PAK2 (p34)(cytosol)'	125.280586
'(S)-3-Hydroxybutanoyl-CoA(Mitochondrial Inner membrane)'	124.710351
'Crotonoyl-CoA(Mitochondrial Inner membrane)'	123.508939
'caspase-3(cytosol)'	121.280586
'Cytochrome C:Apaf-1:ATP:Procaspase-9(cytosol)'	120.369802
'Apoptosome (cytosol)'	118.968392
'K48 polyubiquitinated protein(cytosol)'	116.804304
'E2- E3-substrate complex(cytosol)'	111.30669
'Protein target(cytosol)'	110.144828
'3-Oxooctanoyl-CoA(Mitochondrial Inner membrane)'	109.160696
'E2(cytosol)'	106.377117
'Complex_br_(ubiquitin/E1)(cytosol)'	105.309062
'UBA1(cytosol)'	103.711785
'Complex_br_(ubiquitin/E1)(cytosol)'	102.711785
'NAD+ (Mitochondrial Inner membrane)'	99.009321
'AMP(cytosol)'	95.194946
'H+(Mitochondrial outer membrane)'	92.865928
'FADH2(Mitochondrial Inner membrane)'	81.411781
'membrane potential(Mitochondrial Inner membrane)'	80.078435
'FAD(Mitochondrial Inner membrane)'	78.849794
'CoA-SH(cytosol)'	76.752549
'(S)-Hydroxyoctanoyl-CoA(Mitochondrial Inner membrane)'	71.538162
'trans-Oct-2-enoyl-CoA(Mitochondrial Inner membrane)'	70.336745
'Apaf-1:Cytochrome C(cytosol)'	69.896073
'CYCS(cytosol)'	67.896073
'DAG(cytosol)'	65.827391
'Octanoyl-CoA(Mitochondrial Inner membrane)'	64.79351
'CYCS(Nucleus)'	55.145271
'ubiquinol(Mitochondrial Inner membrane)'	53.703866
'PPARGC1A(Nucleus)'	53.145271
'H2O2(Mitochondrial outer membrane)'	50.812618
'PPARGC1A(Nucleus)'	50.145271
'CASP9(cytosol)'	48.301956
'SMAC:XIAP:Caspase-9(cytosol)'	47.301956
'CREB dependent_br_transcription(Nucleus)'	47.145271
'Lauroyl-CoA(Mitochondrial Inner membrane)'	46.440358
'DIABLO(cytosol)'	46.128277
'Decanoyl-CoA(Mitochondrial Inner membrane)'	44.140499

'Acetoacetyl-CoA(Mitochondrial Inner membrane)'	43.666505
'BAK1(Mitochondrial outer membrane)'	42.894182
'4-cis-decenoyl-CoA(Mitochondrial Inner membrane)'	42.773935
'H2O(cytosol)'	42.239939
'ubiquinone(Mitochondrial Inner membrane)'	42.185862
'(S)-3-Hydroxydodecanoyl-CoA(Mitochondrial Inner membrane)'	42.075408
'3-Oxotetradecanoyl-CoA(Mitochondrial Inner membrane)'	41.52013
'2-trans-Dodecenoyl-CoA(Mitochondrial Inner membrane)'	39.913999
'CREB:TORC1(Nucleus)'	39.713828
'3-Oxododecanoyl-CoA(Mitochondrial Inner membrane)'	39.423828
'myristoyl-CoA(Mitochondrial Inner membrane)'	36.036848
'2-trans-4-cis-decadienoyl-CoA(Mitochondrial Inner membrane)'	34.961891
'Ca2+(cytosol)'	33.553891
'NADPH(Mitochondrial Inner membrane)'	33.306802
'NADP+(Mitochondrial Inner membrane)'	32.798127
'DOPAL(cytosol)'	32.69388
'(S)-3-Hydroxytetradecanoyl-CoA(Mitochondrial Inner membrane)'	31.086797
'3-Oxopalmitoyl-CoA(Mitochondrial Inner membrane)'	30.967334
'palmitoyl-CoA(Mitochondrial Inner membrane)'	30.960583
'(S)-3-Hydroxyhexadecanoyl-CoA(Mitochondrial Inner membrane)'	30.194263
'trans-Tetradec-2-enoyl-CoA(Mitochondrial Inner membrane)'	29.887139
'Autophagosome(cytosol)'	29.112843
'trans-Hexadec-2-enoyl-CoA(Mitochondrial Inner membrane)'	28.794936
'alpha-D-Glucose 6-phosphate(cytosol)'	28.678707
'2-Oxoglutarate(Mitochondrial Inner membrane)'	28.217318
'GSH(Mitochondrial Inner membrane)'	28.109887
'MAPK10(cytosol)'	26.445216
'CoA-SH (Mitochondrial Inner membrane)'	26.066352
'beta-D-Glucose 6-phosphate(cytosol)'	25.63826
'H2O(Mitochondrial Inner membrane)'	24.874042
'MAP2K7(cytosol)'	24.848541
'ATP-sensitive K+ channel(Mitochondrial Inner membrane)'	24.747468
'Dopamine(cytosol)'	24.384096
'CO2 (Mitochondrial Inner membrane)'	24.196073
'GSSG(Mitochondrial Inner membrane)'	24.035037
'beta-D-Fructose 6-phosphate(cytosol)'	23.903136
'CRTC1(Nucleus)'	23.290737
'(S)-3-Hydroxy-3-methylglutaryl-CoA(Mitochondrial Inner membrane)'	21.069278
'pyruvate dehydrogenase complex(Mitochondrial Inner membrane)'	20.261931
'trans-cis-Lauro-2-6-dienoyl-CoA (Mitochondrial Inner membrane)'	18.98691
'1-2-diacyl-glycerol 3-phosphate(cytosol)'	18.587452
'alpha-D-Glucose(cytosol)'	18.083377
'cis-cis-3-6-Dodecadienoyl-CoA(Mitochondrial Inner membrane)'	17.970381
'beta-D-Glucose(cytosol)'	17.691437
'mitochondria depolarization(Mitochondrial Inner membrane)'	17.627458
'(R)-2-hydroxyglutarate(Mitochondrial Inner membrane)'	17.374006
'4-hydroxybutyrate(Mitochondrial Inner membrane)'	17.065303
'H2O (Mitochondrial Inner membrane)'	17.063499
'beta-D-Fructose 1-6-bisphosphate(cytosol)'	16.199648
'3-hydroxyoctadecanoyl-CoA(cytosol)'	16.068852
'CYCS(Mitochondrial Inner membrane)'	16.016157
'mTOR complex 1 (mTORC1)(cytosol)'	15.760625

'Autolysosome(cytosol)'	15.556427
'succinate semialdehyde(Mitochondrial Inner membrane)'	15.152627
'H2O2(cytosol)'	14.908465
'CREB1(Nucleus)'	14.666836
'BAK1(Mitochondrial outer membrane)'	13.651453
'LC3:VDAC1:HDAC6:p62(cytosol)'	13.199237
'TSC2(cytosol)'	12.760625
'tBID:BAK(Mitochondrial outer membrane)'	12.651453
'ASK1 signalsome(cytosol)'	12.242969
'ROS(cytosol)'	12.173657
'Acetyl-CoA(cytosol)'	11.987942
'1-acyl LPA(cytosol)'	11.944974
'AMPA receptor ligand complex(cytosol)'	11.909292
'AMPA receptors containing GluR2 (homomers)(cytosol)'	11.693582
'tBID(Mitochondrial outer membrane)'	11.651453
'Dopamine(default)'	11.413508
'ASK1 signalsome(cytosol)'	11.242969
'VDAC1:HDAC6:p62(cytosol)'	11.199237
'CYCS(Mitochondrial Inner membrane)'	11.048944
'Isolation membrane (IM)(cytosol)'	10.913605
'TAK1(cytosol)'	10.793548
'Mitochondria Fission(Mitochondrial Inner membrane)'	10.494546
'Docked dopamine loaded synaptic vesicle(Docked DA loaded synaptic vesic	10.371254
'Glycerone phosphate(cytosol)'	10.116334
'Pentose phosphate pathway(cytosol)'	9.66228
'GSH(cytosol)'	9.519924
'permiable pore(cytosol)'	9.03374
'phosphohrylated pyruvate dehydrogenase complex(Mitochondrial Inner m	8.886886
'3-oxooctadecanoyl-CoA(cytosol)'	8.680884
'TXN(Mitochondrial Inner membrane)'	8.6252
'TXN(cytosol)'	8.339012
'SNCA (oligomer)(cytosol)'	8.299144
'VDAC1(Mitochondrial outer membrane)'	8.199237
'L-Dopa(cytosol)'	7.881016
'NMDA receptor complex(cytosol)'	7.770913
'tBID(cytosol)'	7.760856
'Mitochondrial dysfunction(Mitochondrial Inner membrane)'	7.740837
'GSSG(cytosol)'	7.513674
'Mitochondria Fusion(Mitochondrial Inner membrane)'	7.494546
'membrane permeability(Mitochondrial Inner membrane)'	7.417135
'G3P(cytosol)'	7.36746
'MAP3K5(cytosol)'	7.242969
'PINK1:PARK2(Mitochondrial outer membrane)'	7.185904
'TXN(Mitochondrial Inner membrane)'	7.023428
'Oxidative stress(Mitochondrial Inner membrane)'	6.546006
'O2(cytosol)'	6.299973
'Fe(III)(cytosol)'	6.009492
'VDAC1(Mitochondrial outer membrane)'	5.869773
'Fe(II)(cytosol)'	5.820523
'MAPK1(cytosol)'	5.817002
'TNFR(cytosol)'	5.793548
'NMDA receptor complex(cytosol)'	5.770957

'TXN(cytosol)'	5.332762
'misfolded SNCA(cytosol)'	5.200458
'OH•(cytosol)'	5.188183
'MAPK1(cytosol)'	4.817002
'TNF(default)'	4.793548
'Raf/Mek(cytosol)'	4.490133
'Electron Leakage at Complex I(Mitochondrial Inner membrane)'	4.411609
'Electron Leakage at Complex III(Mitochondrial Inner membrane)'	4.385674
'ROS(default)'	4.229646
'UBL-acyl adenylate intermediate(cytosol)'	4.222177
'HOO•(cytosol)'	4.171438
'Palmitate(cytosol)'	4.071456
'PINK1(Mitochondrial outer membrane)'	4.013605
'SLC25A14(Mitochondrial Inner membrane)'	4.005794
'SLC25A27(Mitochondrial Inner membrane)'	4.005794
'CREB1(Nucleus)'	4
'Intrinsic apoptosis(Mitochondrial Inner membrane)'	3.929773
'Autophagy induction(cytosol)'	3.9
'tBID:BAX(cytosol)'	3.876832
'Tyrosine 3-monooxygenase (Fe2+ cofactor)(cytosol)'	3.865391
'Calmodulin:CaMK IV(Nucleus)'	3.81132
'membrane depolarlization(cytosol)'	3.770957
'Ras:GTP(cytosol)'	3.490133
'O2-(Mitochondrial Inner membrane)'	3.217068
'ubiquitin(cytosol)'	3.173212
'Malonyl-CoA(cytosol)'	3.154033
'BAX(cytosol)'	3.096368
'classic PI3K complex(cytosol)'	3.013605
'Dopamine loaded synaptic vesicle(DA loaded synaptic vesicle)'	3.012544
'DNM1L(Mitochondrial outer membrane)'	3
'DNM1L(Mitochondrial outer membrane)'	3
'IL-1R(cytosol)'	3
'Jacob:importin alpha(Nucleus)'	3
'Microgria activation(microglia)'	3
'O2-(cytosol)'	2.99019
'ATG1 kinase complex(cytosol)'	2.9
'VAMP2(cytosol)'	2.887324
'Calmodulin:CaMK IV(cytosol)'	2.81132
'AMPK(cytosol)'	2.8
'Na+(cytosol)'	2.770957
'CASP3(cytosol)'	2.41317
'CASP7(cytosol)'	2.41317
'Calmodulin(cytosol)'	2.339189
'CREB:TORC2(Nucleus)'	2.276157
'H+(default)'	2.203903
'E3(cytosol)'	2.168548
'CREB:CBP(Nucleus)'	2.155285
'Fe(II)(Mitochondrial Inner membrane)'	2.064406
'Fe(III)(Mitochondrial Inner membrane)'	2.042127
'Caspase-2(cytosol)'	2
'Ca2+(Mitochondrial Inner membrane)'	2
'PAK2(cytosol)'	2

'PINK1(Mitochondrial outer membrane)'	2
'IL1B(default)'	2
'L-Palmitoylcarnitine(Mitochondrial Inner membrane)'	2
'Jacob:importin alpha(cytosol)'	2
'alpha cynuclein(microglia)'	2
'O2-(Mitochondrial outer membrane)'	1.984615
'Acetate(Mitochondrial Inner membrane)'	1.982609
'Protein target(cytosol)'	1.943859
'RasGRF(cytosol)'	1.490133
'SMAC:XIAP:Caspase-3(cytosol)'	1.41317
'SMAC:XIAP:Caspase-7(cytosol)'	1.41317
'OH•(Mitochondrial Inner membrane)'	1.295024
'ROS(microglia)'	1.206452
'CRTC2(cytosol)'	1.154285
'BAX(Mitochondrial outer membrane)'	1.115124
'ACADL(Mitochondrial Inner membrane)'	1.059701
'CREBBP(Nucleus)'	1.03341
'BECN1(cytosol)'	1.027211
'NADH-Q oxireductase (complex I)(Mitochondrial Inner membrane)'	1.014925
'isocitrate dehydrogenase(Mitochondrial Inner membrane)'	1.014925
'SOD2(Mitochondrial Inner membrane)'	1.014925
'HMGCS2(Mitochondrial Inner membrane)'	1.014925
'GLUD1(Mitochondrial Inner membrane)'	1.014925
'26S hybrid proteasome(cytosol)'	1.006667
'ROS(astrocyte)'	1
'DNM1L(cytosol)'	1
'D-Glucose 1-phosphate(cytosol)'	0.993464
'L-Palmitoylcarnitine(Mitochondrial outer membrane)'	0.97931
'mtDNA deletion(Mitochondrial Inner membrane)'	0.979021
'Acetaldehyde(Mitochondrial Inner membrane)'	0.973913
'tBID:BCL-2(Mitochondrial outer membrane)'	0.972789
'PPP2CA(cytosol)'	0.970588
'E2(cytosol)'	0.96
'CaMKII:Calmodulin:Ca2(cytosol)'	0.888926
'SNARE complex(cytosol)'	0.887324
'MAPK8(cytosol)'	0.389625
'palmitoyl-CoA(cytosol)'	0.389594
'HOO•(Mitochondrial Inner membrane)'	0.301618
'O2(Mitochondrial Inner membrane)'	0.231666
'MAPK9(cytosol)'	0.201674
'MAP2K4(cytosol)'	0.187976
'arachidonoyl-CoA(cytosol)'	0.185381
'Electron Leakage at Complex III(Mitochondrial outer membrane)'	0.015152
'Synapsin(cytosol)'	0.014085
'CPLX1(cytosol)'	0.014085
'SYT1(cytosol)'	0.014085
'SLC18A2(cytosol)'	0.014085
'Rab3:RIM(cytosol)'	0.014085
'mtDNA mutations(Mitochondrial Inner membrane)'	0.006993
'APC fragment(778-2483)(cytosol)'	0
'DDC dimer (cytosol)'	0
'lactate dehydrogenase A3B complex(cytosol)'	0

'lactate dehydrogenase AB3 complex(cytosol)'	0
'lactate dehydrogenase A4 complex(cytosol)'	0
'Citrate Synthase Holoenzyme(Mitochondrial Inner membrane)'	0
'caspase-7(Nucleus)'	0
'DP-1:E2F1 complex(Nucleus)'	0
'BIM sequestered to dynein (DLC1)(cytosol)'	0

Failure of protein degradation systems

Species Name	Scores
Number of Species	**284**
'Failure of protein quality control(default)'	561
'ROS(cytosol)'	543.336635
'H2O2(cytosol)'	536.94016
'H+(cytosol)'	533.296941
'ADP(cytosol)'	521.474619
'Pyruvate (cytosol)'	446.376086
'Cytochrome C:Apaf-1:ATP:Procaspase-9(cytosol)'	367.661803
'NAD+(cytosol)'	343.165796
'Apaf-1:Cytochrome C(cytosol)'	327.469179
'CYCS(cytosol)'	325.469179
'VDAC1(Mitochondrial outer membrane)'	281.117853
'L-Lactate (cytosol)'	280.850053
'Intrinsic apoptosis(Mitochondrial Inner membrane)'	280.083221
'Mitochondrial dysfunction(Mitochondrial Inner membrane)'	279.083221
'H+(Mitochondrial Inner membrane)'	256.949749
'ATP(cytosol)'	242.264005
'ROS(Mitochondrial Inner membrane)'	198.562525
'H+(Mitochondrial outer membrane)'	194.12143
'2-3-Bisphospho-D-glycerate(cytosol)'	189.478761
'mitochondria depolarization(Mitochondrial Inner membrane)'	189.087072
'NADH(cytosol)'	183.416927
'membrane potential(Mitochondrial Inner membrane)'	181.659091
'Orthophosphate(cytosol)'	178.331416
'Apoptosome (cytosol)'	176.203278
'PAK2 (p34)(cytosol)'	161.638106
'caspase-3(cytosol)'	157.638106
'EPB41L1(cytosol)'	157.521001
'Succinate dehydrogenase (complex II)(Mitochondrial Inner membrane	154.13729
'Succinate dehydrogenase (complex II)(Mitochondrial Inner membrane	149.882829
'L-Malate (Mitochondrial Inner membrane)'	148.768329
'AKAP5(cytosol)'	148.308153
'Succinate(Mitochondrial Inner membrane)'	147.085017
'Fumarate (Mitochondrial Inner membrane)'	145.811262
'CoA-SH(Mitochondrial Inner membrane)'	144.208676
'Isocitrate(Mitochondrial Inner membrane)'	143.768935
'Citrate(Mitochondrial Inner membrane)'	142.75355
'3-Phospho-D-glycerate(cytosol)'	136.594127
'Succinyl-CoA(Mitochondrial Inner membrane)'	135.975574
'Acetyl-CoA(Mitochondrial Inner membrane)'	135.093488
'CO2(Mitochondrial Inner membrane)'	133.77034
'HMG CoA(Mitochondrial Inner membrane)'	130.676837
'Oxaloacetate (Mitochondrial Inner membrane)'	130.414877

'2-Phospho-D-glycerate(cytosol)'	119.752957
'Phosphoenolpyruvate(cytosol)'	114.93733
'L-methylmalonyl-CoA(Mitochondrial Inner membrane)'	111.313187
'NADH(Mitochondrial Inner membrane)'	109.979246
'D-methylmalonyl-CoA(Mitochondrial Inner membrane)'	109.313187
'(S)-Hydroxydecanoyl-CoA(Mitochondrial Inner membrane)'	107.000094
'trans-Dec-2-enoyl-CoA(Mitochondrial Inner membrane)'	105.834587
'acetoacetate(Mitochondrial Inner membrane)'	102.868459
'3-Oxodecanoyl-CoA(Mitochondrial Inner membrane)'	97.598382
'Orthophosphate(Mitochondrial Inner membrane)'	94.363027
'(S)-Hydroxyhexanoyl-CoA(Mitochondrial Inner membrane)'	88.794438
'ATP(Mitochondrial Inner membrane)'	88.725268
'trans-Hex-2-enoyl-CoA(Mitochondrial Inner membrane)'	87.628942
'Hexanoyl-CoA(Mitochondrial Inner membrane)'	85.635471
'acetoacetyl-CoA(Mitochondrial Inner membrane)'	84.752861
'1-3-Bisphospho-D-glycerate(cytosol)'	84.063543
'3-trans-decenoyl-CoA(Mitochondrial Inner membrane)'	81.468066
'H2O2(Mitochondrial outer membrane)'	79.811674
'Acetyl-CoA (Mitochondrial Inner membrane)'	76.495782
'Butanoyl-CoA(Mitochondrial Inner membrane)'	76.252856
'(S)-3-Hydroxybutanoyl-CoA(Mitochondrial Inner membrane)'	75.898548
'H2O2(Mitochondrial Inner membrane)'	75.598782
'3-Oxohexanoyl-CoA(Mitochondrial Inner membrane)'	74.876053
'Crotonoyl-CoA(Mitochondrial Inner membrane)'	74.733058
'D-beta hydroxybutyrate(Mitochondrial Inner membrane)'	73.929115
'(S)-3-Hydroxy-3-methylglutaryl-CoA(Mitochondrial Inner membrane)'	73.428388
'CoA-SH (Mitochondrial Inner membrane)'	73.187658
'Acetoacetyl-CoA(Mitochondrial Inner membrane)'	72.225336
'Oxidative stress(Mitochondrial Inner membrane)'	71.778972
'K48 polyubiquitinated protein(cytosol)'	70.22963
'CoA-SH(cytosol)'	67.365823
'E2- E3-substrate complex(cytosol)'	63.619378
'ADP(Mitochondrial Inner membrane)'	62.99635
'Acetoacetate(Mitochondrial Inner membrane)'	61.847767
'Protein target(cytosol)'	61.261961
'E2(cytosol)'	59.072553
'Complex_br_(ubiquitin/E1)(cytosol)'	57.784223
'alpha-D-Glucose 6-phosphate(cytosol)'	56.227304
'UBA1(cytosol)'	55.488726
'(S)-Hydroxyoctanoyl-CoA(Mitochondrial Inner membrane)'	55.025559
'Complex_br_(ubiquitin/E1)(cytosol)'	54.488726
'ATP-sensitive K+ channel(Mitochondrial Inner membrane)'	54.44799
'trans-Oct-2-enoyl-CoA(Mitochondrial Inner membrane)'	53.86006
'DAG(cytosol)'	53.467378
'DOPAL(cytosol)'	51.128105
'AMP(cytosol)'	48.573282
'3-Oxooctanoyl-CoA(Mitochondrial Inner membrane)'	48.310336
'O2(cytosol)'	47.09929
'Fe(III)(cytosol)'	45.965699
'O2-(cytosol)'	44.900334
'Octanoyl-CoA(Mitochondrial Inner membrane)'	43.990104
'Dopamine(cytosol)'	43.929149

'Pentose phosphate pathway(cytosol)'	40.878943
'2-trans-4-cis-decadienoyl-CoA(Mitochondrial Inner membrane)'	39.5275
'4-cis-decenoyl-CoA(Mitochondrial Inner membrane)'	39.369737
'CO2 (Mitochondrial Inner membrane)'	39.086523
'DIABLO(cytosol)'	38.402678
'CASP9(cytosol)'	37.929763
'SMAC:XIAP:Caspase-9(cytosol)'	36.929763
'beta-D-Glucose 6-phosphate(cytosol)'	36.908522
'CYCS(Nucleus)'	36.248966
'PPARGC1A(Nucleus)'	34.248966
'BAK1(Mitochondrial outer membrane)'	34.177463
'H2O(cytosol)'	32.560479
'GSH(Mitochondrial Inner membrane)'	31.868429
'PPARGC1A(Nucleus)'	31.248966
'beta-D-Fructose 1-6-bisphosphate(cytosol)'	31.229767
'Dopamine(default)'	31.049839
'L-Lactate (default)'	30.368845
'Docked dopamine loaded synaptic vesicle(Docked DA loaded synaptic	29.963632
'SNCA (oligomer)(cytosol)'	29.818809
'H2O(Mitochondrial Inner membrane)'	29.612298
'D-Glyceraldehyde 3-phosphate(cytosol)'	29.524037
'CREB dependent_br_transcription(Nucleus)'	28.248966
'GSSG(Mitochondrial Inner membrane)'	27.656229
'Ca2+(cytosol)'	27.467606
'FADH2(Mitochondrial Inner membrane)'	27.086141
'H+(default)'	26.385219
'Acetyl-CoA(cytosol)'	25.303943
'(S)-3-Hydroxydodecanoyl-CoA(Mitochondrial Inner membrane)'	24.840375
'NADP+(Mitochondrial Inner membrane)'	24.754611
'NAD+(Mitochondrial Inner membrane)'	24.651088
'membrane permeability(Mitochondrial Inner membrane)'	24.450028
'NADPH(Mitochondrial Inner membrane)'	24.351079
'ubiquinol(Mitochondrial Inner membrane)'	24.198013
'2-trans-Dodecenoyl-CoA(Mitochondrial Inner membrane)'	22.700517
'Lauroyl-CoA(Mitochondrial Inner membrane)'	22.543618
'Decanoyl-CoA(Mitochondrial Inner membrane)'	22.337334
'3-Oxotetradecanoyl-CoA(Mitochondrial Inner membrane)'	20.838664
'3-Oxododecanoyl-CoA(Mitochondrial Inner membrane)'	20.759162
'beta-D-Fructose 6-phosphate(cytosol)'	20.632851
'FAD(Mitochondrial Inner membrane)'	20.20203
'CREB:TORC1(Nucleus)'	19.864404
'OH•(cytosol)'	19.692365
'ubiquinone(Mitochondrial Inner membrane)'	19.337114
'MAPK10(cytosol)'	19.173018
'MAP2K7(cytosol)'	18.108291
'(S)-3-Hydroxytetradecanoyl-CoA(Mitochondrial Inner membrane)'	16.643444
'CYCS(Mitochondrial Inner membrane)'	16.294764
'misfolded SNCA(cytosol)'	15.919688
'1-2-diacyl-glycerol 3-phosphate(cytosol)'	15.906899
'2-Oxoglutarate(Mitochondrial Inner membrane)'	15.736632
'trans-Tetradec-2-enoyl-CoA(Mitochondrial Inner membrane)'	15.477725
'myristoyl-CoA(Mitochondrial Inner membrane)'	15.341229

'(R)-2-hydroxyglutarate(Mitochondrial Inner membrane)'	14.759252
'alpha-D-Glucose(cytosol)'	14.649538
'(S)-3-Hydroxyhexadecanoyl-CoA(Mitochondrial Inner membrane)'	14.550912
'4-hydroxybutyrate(Mitochondrial Inner membrane)'	14.530315
'CREB1(Nucleus)'	14.032628
'ROS(default)'	14.030197
'beta-D-Glucose(cytosol)'	13.9167
'3-Oxopalmitoyl-CoA(Mitochondrial Inner membrane)'	13.542922
'trans-Hexadec-2-enoyl-CoA(Mitochondrial Inner membrane)'	13.091982
'succinate semialdehyde(Mitochondrial Inner membrane)'	12.604459
'BAK1(Mitochondrial outer membrane)'	12.467286
'H2O (Mitochondrial Inner membrane)'	12.450207
'pyruvate dehydrogenase complex(Mitochondrial Inner membrane)'	12.047972
'Pyruvate (Mitochondrial Inner membrane)'	11.989748
'palmitoyl-CoA(Mitochondrial Inner membrane)'	11.742715
'tBID:BAK(Mitochondrial outer membrane)'	11.467286
'NMDA receptor complex(cytosol)'	11.377522
'CYCS(Mitochondrial Inner membrane)'	11.370522
'TAK1(cytosol)'	10.666668
'HOO•(cytosol)'	10.531524
'tBID(Mitochondrial outer membrane)'	10.467286
'3-hydroxyoctadecanoyl-CoA(cytosol)'	10.461834
'1-acyl LPA(cytosol)'	10.265859
'Fe(II)(cytosol)'	9.736873
'Isolation membrane (IM)(cytosol)'	9.64939
'NMDA receptor complex(cytosol)'	9.393387
'O2-(Mitochondrial Inner membrane)'	9.210756
'permiable pore(cytosol)'	8.940046
'Raf/Mek(cytosol)'	8.81878
'TXN(Mitochondrial Inner membrane)'	8.541484
'Glycerone phosphate(cytosol)'	8.47077
'trans-cis-Lauro-2-6-dienoyl-CoA (Mitochondrial Inner membrane)'	8.39534
'Ras:GTP(cytosol)'	7.81878
'TXN(cytosol)'	7.783834
'L-Dopa(cytosol)'	7.695064
'MAPK1(cytosol)'	7.642439
'3-oxooctadecanoyl-CoA(cytosol)'	7.614376
'NAD+ (Mitochondrial Inner membrane)'	7.59439
'membrane depolarlization(cytosol)'	7.393387
'cis-cis-3-6-Dodecadienoyl-CoA(Mitochondrial Inner membrane)'	7.378486
'phosphohrylated pyruvate dehydrogenase complex(Mitochondrial Inr	7.076014
'TXN(Mitochondrial Inner membrane)'	6.950345
'tBID(cytosol)'	6.855312
'MAPK1(cytosol)'	6.642439
'Na+(cytosol)'	6.393387
'Calmodulin(cytosol)'	6.310306
'G3P(cytosol)'	6.135404
'ASK1 signalsome(cytosol)'	5.862745
'RasGRF(cytosol)'	5.81878
'Electron Leakage at Complex III(Mitochondrial Inner membrane)'	5.806693
'TNFR(cytosol)'	5.666668
'AMPA receptors containing GluR2 (homomers)(cytosol)'	5.52756

'ASK1 signalsome(cytosol)'	4.862745
'TXN(cytosol)'	4.766885
'TNF(default)'	4.666668
'CRTC1(Nucleus)'	4.663523
'CASP7(cytosol)'	4.315279
'classic PI3K complex(cytosol)'	4.02439
'CREB1(Nucleus)'	4
'GSH(cytosol)'	3.868801
'Palmitate(cytosol)'	3.722181
'UBL-acyl adenylate intermediate(cytosol)'	3.673185
'Tyrosine 3-monooxygenase (Fe2+ cofactor)(cytosol)'	3.63384
'BAX(cytosol)'	3.458874
'SLC25A14(Mitochondrial Inner membrane)'	3.390644
'SLC25A27(Mitochondrial Inner membrane)'	3.390644
'tBID:BAX(cytosol)'	3.385615
'E3(cytosol)'	3.379145
'Calmodulin:CaMK IV(Nucleus)'	3.355932
'BAX(Mitochondrial outer membrane)'	3.327556
'SMAC:XIAP:Caspase-7(cytosol)'	3.315279
'ubiquitin(cytosol)'	3.240783
'Malonyl-CoA(cytosol)'	3.184916
'CASP3(cytosol)'	3.157634
'IL-1R(cytosol)'	3
'Jacob:importin alpha(Nucleus)'	3
'AMPK(cytosol)'	3
'Microgria activation(microglia)'	3
'Dopamine loaded synaptic vesicle(DA loaded synaptic vesicle)'	2.973259
'CREB:TORC2(Nucleus)'	2.859789
'VAMP2(cytosol)'	2.793103
'CREB:CBP(Nucleus)'	2.524771
'Calmodulin:CaMK IV(cytosol)'	2.355932
'Fe(II)(Mitochondrial Inner membrane)'	2.199111
'SMAC:XIAP:Caspase-3(cytosol)'	2.157634
'Autophagy induction(cytosol)'	2.125
'AMPA receptor ligand complex(cytosol)'	2.088017
'O2-(Mitochondrial outer membrane)'	2.042254
'Fe(III)(Mitochondrial Inner membrane)'	2.039551
'Caspase-2(cytosol)'	2
'Ca2+(Mitochondrial Inner membrane)'	2
'PAK2(cytosol)'	2
'IL1B(default)'	2
'L-Palmitoylcarnitine(Mitochondrial Inner membrane)'	2
'Jacob:importin alpha(cytosol)'	2
'alpha cynuclein(microglia)'	2
'Acetate(Mitochondrial Inner membrane)'	1.934343
'GSSG(cytosol)'	1.851852
'Protein target(cytosol)'	1.661111
'OH•(Mitochondrial Inner membrane)'	1.588072
'CRTC2(cytosol)'	1.443916
'ROS(microglia)'	1.333332
'ATG1 kinase complex(cytosol)'	1.125
'CREBBP(Nucleus)'	1.108898

'26S hybrid proteasome(cytosol)'	1.043478
'BECN1(cytosol)'	1.02439
'HMGCS2(Mitochondrial Inner membrane)'	1.013889
'ACADL(Mitochondrial Inner membrane)'	1.013889
'NADH-Q oxireductase (complex I)(Mitochondrial Inner membrane)'	1.009259
'isocitrate dehydrogenase(Mitochondrial Inner membrane)'	1.00463
'SOD2(Mitochondrial Inner membrane)'	1.00463
'GLUD1(Mitochondrial Inner membrane)'	1.00463
'ROS(astrocyte)'	1
'Lysosome biogenesis(cytosol)'	1
'L-Palmitoylcarnitine(Mitochondrial outer membrane)'	0.982379
'tBID:BCL-2(Mitochondrial outer membrane)'	0.97561
'D-Glucose 1-phosphate(cytosol)'	0.96875
'mtDNA deletion(Mitochondrial Inner membrane)'	0.925
'Acetaldehyde(Mitochondrial Inner membrane)'	0.914141
'MAPK8(cytosol)'	0.888766
'PPP2CA(cytosol)'	0.87931
'MAP3K5(cytosol)'	0.862745
'E2(cytosol)'	0.826087
'palmitoyl-CoA(cytosol)'	0.806517
'SNARE complex(cytosol)'	0.793103
'CaMKII:Calmodulin:Ca2(cytosol)'	0.785594
'HOO•(Mitochondrial Inner membrane)'	0.643445
'MAPK9(cytosol)'	0.46763
'MAP2K4(cytosol)'	0.421118
'arachidonoyl-CoA(cytosol)'	0.353766
'O2(Mitochondrial Inner membrane)'	0.34777
'Electron Leakage at Complex I(Mitochondrial Inner membrane)'	0.056293
'Rab3:RIM(cytosol)'	0.051724
'Electron Leakage at Complex III(Mitochondrial outer membrane)'	0.042254
'mtDNA mutations(Mitochondrial Inner membrane)'	0.025
'Synapsin(cytosol)'	0.017241
'CPLX1(cytosol)'	0.017241
'SYT1(cytosol)'	0.017241
'SLC18A2(cytosol)'	0.017241
'APC fragment(778-2483)(cytosol)'	0
'DDC dimer (cytosol)'	0
'lactate dehydrogenase A3B complex(cytosol)'	0
'lactate dehydrogenase AB3 complex(cytosol)'	0
'lactate dehydrogenase A4 complex(cytosol)'	0
'Citrate Synthase Holoenzyme(Mitochondrial Inner membrane)'	0
'caspase-7(Nucleus)'	0
'DP-1:E2F1 complex(Nucleus)'	0
'BIM sequestered to dynein (DLC1)(cytosol)'	0
'alpha-ketoglutarate dehydrogenase complex(Mitochondrial Inner mei	0
'caspase-6(cytosol)'	0
'BAD:BCL-2(Mitochondrial outer membrane)'	0
'caspase-3(cytosol)'	0
'NNT dimer(Mitochondrial Inner membrane)'	0
'lactate dehydrogenase A2B2 complex(cytosol)'	0
'PDP2 complex(Mitochondrial Inner membrane)'	0
'isocitrate dehydrogenase 3 complex(Mitochondrial Inner membrane)'	0

'fumarate hydratase(Mitochondrial Inner membrane)'	0
'F0F1-ATP synthase (complex V)(Mitochondrial Inner membrane)'	0
'cytochrome c oxidase (complex IV)(Mitochondrial Inner membrane)'	0
'Tyrosine 3-monooxygenase (Fe2+ cofactor)(cytosol)'	0
'lactate dehydrogenase B4 complex(cytosol)'	0
'PDP1 complex(Mitochondrial Inner membrane)'	0

Neuroinflammation

Species Name	**Scores**
Number of Species	**280**
'Neuroinflammation(default)'	549
'ROS(Mitochondrial Inner membrane)'	448.896002
'H+(Mitochondrial Inner membrane)'	442.800592
'ADP(cytosol)'	407.350183
'H+(cytosol)'	373.225085
'H2O2(Mitochondrial Inner membrane)'	370.775347
'Pyruvate (cytosol)'	341.549348
'ATP(cytosol)'	336.0414
'L-Lactate (cytosol)'	328.777831
'membrane permeability(Mitochondrial Inner membrane)'	320.161891
'2-3-Bisphospho-D-glycerate(cytosol)'	309.853593
'L-Malate (Mitochondrial Inner membrane)'	305.090494
'Succinate dehydrogenase (complex II)(Mitochondrial Inner membrane	303.627504
'Succinate dehydrogenase (complex II)(Mitochondrial Inner membrane	298.378558
'Succinate(Mitochondrial Inner membrane)'	297.741756
'Fumarate (Mitochondrial Inner membrane)'	295.478147
'Isocitrate(Mitochondrial Inner membrane)'	284.688317
'Citrate(Mitochondrial Inner membrane)'	283.680854
'Orthophosphate(cytosol)'	282.940683
'CoA-SH(Mitochondrial Inner membrane)'	281.842302
'Oxaloacetate (Mitochondrial Inner membrane)'	280.156676
'3-Phospho-D-glycerate(cytosol)'	276.975326
'NADH(cytosol)'	276.004326
'1-3-Bisphospho-D-glycerate(cytosol)'	271.938255
'CO2(Mitochondrial Inner membrane)'	265.687813
'Succinyl-CoA(Mitochondrial Inner membrane)'	264.261728
'Orthophosphate(Mitochondrial Inner membrane)'	254.741234
'NAD+(cytosol)'	247.505663
'D-Glyceraldehyde 3-phosphate(cytosol)'	238.358863
'Cytochrome C:Apaf-1:ATP:Procaspase-9(cytosol)'	237.12844
'L-methylmalonyl-CoA(Mitochondrial Inner membrane)'	237.048008
'2-Phospho-D-glycerate(cytosol)'	235.269282
'D-methylmalonyl-CoA(Mitochondrial Inner membrane)'	235.048008
'Phosphoenolpyruvate(cytosol)'	232.975576
'Acetyl-CoA(Mitochondrial Inner membrane)'	231.472058
'HMG CoA(Mitochondrial Inner membrane)'	229.317402
'Apoptosome (cytosol)'	229.073791
'beta-D-Fructose 1-6-bisphosphate(cytosol)'	221.590044
'PAK2 (p34)(cytosol)'	220.264109
'alpha-D-Glucose 6-phosphate(cytosol)'	216.288012
'caspase-3(cytosol)'	216.264109
'NADH(Mitochondrial Inner membrane)'	213.50377

'ATP(Mitochondrial Inner membrane)'	212.877554
'Pyruvate (Mitochondrial Inner membrane)'	212.553661
'beta-D-Glucose 6-phosphate(cytosol)'	210.385927
'Glycerone phosphate(cytosol)'	210.124536
'beta-D-Fructose 6-phosphate(cytosol)'	208.366054
'Pentose phosphate pathway(cytosol)'	204.18818
'ROS(cytosol)'	202.258984
'H2O2(cytosol)'	199.781031
'acetoacetate(Mitochondrial Inner membrane)'	198.419623
'H+(Mitochondrial outer membrane)'	190.560916
'CO2 (Mitochondrial Inner membrane)'	190.147992
'Apaf-1:Cytochrome C(cytosol)'	186.398732
'CYCS(cytosol)'	184.398732
'ADP(Mitochondrial Inner membrane)'	183.52318
'(S)-Hydroxydecanoyl-CoA(Mitochondrial Inner membrane)'	181.24854
'trans-Dec-2-enoyl-CoA(Mitochondrial Inner membrane)'	180.0238
'membrane potential(Mitochondrial Inner membrane)'	176.743363
'acetoacetyl-CoA(Mitochondrial Inner membrane)'	175.985875
'CoA-SH (Mitochondrial Inner membrane)'	170.013851
'Acetyl-CoA (Mitochondrial Inner membrane)'	169.809308
'D-beta hydroxybutyrate(Mitochondrial Inner membrane)'	169.782511
'3-Oxodecanoyl-CoA(Mitochondrial Inner membrane)'	168.532206
'Acetoacetyl-CoA(Mitochondrial Inner membrane)'	165.888684
'(S)-3-Hydroxy-3-methylglutaryl-CoA(Mitochondrial Inner membrane)'	164.387407
'Acetoacetate(Mitochondrial Inner membrane)'	158.354015
'(S)-Hydroxyhexanoyl-CoA(Mitochondrial Inner membrane)'	154.155067
'3-trans-decenoyl-CoA(Mitochondrial Inner membrane)'	153.378357
'trans-Hex-2-enoyl-CoA(Mitochondrial Inner membrane)'	152.930331
'Intrinsic apoptosis(Mitochondrial Inner membrane)'	151.777725
'Hexanoyl-CoA(Mitochondrial Inner membrane)'	150.938978
'Mitochondrial dysfunction(Mitochondrial Inner membrane)'	150.777725
'Butanoyl-CoA(Mitochondrial Inner membrane)'	137.288634
'ROS(default)'	133.585071
'O2-(Mitochondrial Inner membrane)'	133.438775
'3-Oxohexanoyl-CoA(Mitochondrial Inner membrane)'	133.421272
'(S)-3-Hydroxybutanoyl-CoA(Mitochondrial Inner membrane)'	132.049042
'Crotonoyl-CoA(Mitochondrial Inner membrane)'	130.824298
'ROS(astrocyte)'	129.47327
'VDAC1(Mitochondrial outer membrane)'	123.568867
'Electron Leakage at Complex III(Mitochondrial Inner membrane)'	121.269732
'(S)-Hydroxyoctanoyl-CoA(Mitochondrial Inner membrane)'	117.580086
'trans-Oct-2-enoyl-CoA(Mitochondrial Inner membrane)'	116.355352
'K48 polyubiquitinated protein(cytosol)'	115.562351
'Octanoyl-CoA(Mitochondrial Inner membrane)'	113.529958
'E2- E3-substrate complex(cytosol)'	109.893932
'Protein target(cytosol)'	108.834644
'E2(cytosol)'	105.030442
'Complex_br_(ubiquitin/E1)(cytosol)'	103.920371
'UBA1(cytosol)'	101.915673
'Complex_br_(ubiquitin/E1)(cytosol)'	100.915673
'3-Oxooctanoyl-CoA(Mitochondrial Inner membrane)'	99.996729
'OH•(Mitochondrial Inner membrane)'	99.614418

'Fe(III)(Mitochondrial Inner membrane)'	96.100239
'Fe(II)(Mitochondrial Inner membrane)'	96.097978
'Oxidative stress(Mitochondrial Inner membrane)'	95.930068
'HOO•(Mitochondrial Inner membrane)'	95.816848
'AMP(cytosol)'	93.666986
'mtDNA deletion(Mitochondrial Inner membrane)'	87.238894
'CoA-SH(cytosol)'	81.174034
'EPB41L1(cytosol)'	80.774093
'AKAP5(cytosol)'	76.103282
'permiable pore(cytosol)'	75.995064
'SNCA (oligomer)(cytosol)'	74.995064
'DAG(cytosol)'	70.400733
'CYCS(Nucleus)'	53.975382
'PPARGC1A(Nucleus)'	51.975382
'mitochondria depolarization(Mitochondrial Inner membrane)'	50.811278
'PPARGC1A(Nucleus)'	48.975382
'CASP9(cytosol)'	48.540477
'4-cis-decenoyl-CoA(Mitochondrial Inner membrane)'	47.751866
'SMAC:XIAP:Caspase-9(cytosol)'	47.540477
'NAD+(Mitochondrial Inner membrane)'	47.292733
'FAD(Mitochondrial Inner membrane)'	46.967183
'FADH2(Mitochondrial Inner membrane)'	46.812963
'DIABLO(cytosol)'	46.363247
'CREB dependent_br_transcription(Nucleus)'	45.975382
'2-trans-4-cis-decadienoyl-CoA(Mitochondrial Inner membrane)'	45.667971
'BAK1(Mitochondrial outer membrane)'	43.07113
'DOPAL(cytosol)'	42.367142
'H2O(cytosol)'	38.646988
'CREB:TORC1(Nucleus)'	38.549114
'L-Lactate (default)'	37.465355
'Dopamine(cytosol)'	37.360001
'Ca2+(cytosol)'	34.269278
'GSH(Mitochondrial Inner membrane)'	32.147776
'(S)-3-Hydroxydodecanoyl-CoA(Mitochondrial Inner membrane)'	30.844527
'Lauroyl-CoA(Mitochondrial Inner membrane)'	30.776931
'H2O(Mitochondrial Inner membrane)'	29.815089
'ubiquinol(Mitochondrial Inner membrane)'	28.813445
'2-trans-Dodecenoyl-CoA(Mitochondrial Inner membrane)'	28.655764
'NADPH(Mitochondrial Inner membrane)'	28.211582
'GSSG(Mitochondrial Inner membrane)'	27.724656
'NADP+(Mitochondrial Inner membrane)'	27.467165
'Decanoyl-CoA(Mitochondrial Inner membrane)'	26.907691
'1-2-diacyl-glycerol 3-phosphate(cytosol)'	26.753745
'3-Oxotetradecanoyl-CoA(Mitochondrial Inner membrane)'	26.663271
'MAPK10(cytosol)'	26.655069
'H2O2(Mitochondrial outer membrane)'	25.59282
'MAP2K7(cytosol)'	25.04433
'Dopamine(default)'	24.37613
'Docked dopamine loaded synaptic vesicle(Docked DA loaded synaptic	23.360978
'3-Oxododecanoyl-CoA(Mitochondrial Inner membrane)'	22.883481
'2-Oxoglutarate(Mitochondrial Inner membrane)'	22.820289
'CRTC1(Nucleus)'	22.176031

'ubiquinone(Mitochondrial Inner membrane)'	20.446598
'1-acyl LPA(cytosol)'	20.170158
'myristoyl-CoA(Mitochondrial Inner membrane)'	19.087043
'(S)-3-Hydroxytetradecanoyl-CoA(Mitochondrial Inner membrane)'	18.190669
'CYCS(Mitochondrial Inner membrane)'	17.037188
'trans-Tetradec-2-enoyl-CoA(Mitochondrial Inner membrane)'	16.965883
'pyruvate dehydrogenase complex(Mitochondrial Inner membrane)'	16.347972
'(R)-2-hydroxyglutarate(Mitochondrial Inner membrane)'	15.615216
'H2O (Mitochondrial Inner membrane)'	15.577224
'G3P(cytosol)'	15.514171
'4-hydroxybutyrate(Mitochondrial Inner membrane)'	15.473095
'(S)-3-Hydroxyhexadecanoyl-CoA(Mitochondrial Inner membrane)'	15.060024
'palmitoyl-CoA(Mitochondrial Inner membrane)'	14.910189
'3-Oxopalmitoyl-CoA(Mitochondrial Inner membrane)'	14.90946
'CREB1(Nucleus)'	14.622321
'Acetyl-CoA(cytosol)'	14.485853
'3-hydroxyoctadecanoyl-CoA(cytosol)'	14.21317
'trans-Hexadec-2-enoyl-CoA(Mitochondrial Inner membrane)'	13.835237
'H+(default)'	13.773889
'BAK1(Mitochondrial outer membrane)'	13.611724
'succinate semialdehyde(Mitochondrial Inner membrane)'	13.528224
'beta-D-Glucose(cytosol)'	12.70349
'tBID:BAK(Mitochondrial outer membrane)'	12.611724
'ASK1 signalsome(cytosol)'	12.417851
'AMPA receptors containing GluR2 (homomers)(cytosol)'	12.241925
'O2(cytosol)'	12.130141
'O2-(cytosol)'	12.123
'CYCS(Mitochondrial Inner membrane)'	12.051077
'tBID(Mitochondrial outer membrane)'	11.611724
'ASK1 signalsome(cytosol)'	11.417851
'Fe(III)(cytosol)'	11.205933
'alpha-D-Glucose(cytosol)'	11.168701
'NAD+ (Mitochondrial Inner membrane)'	10.864137
'TAK1(cytosol)'	10.807019
'AMPA receptor ligand complex(cytosol)'	10.119326
'NMDA receptor complex(cytosol)'	10.110214
'trans-cis-Lauro-2-6-dienoyl-CoA (Mitochondrial Inner membrane)'	9.927773
'phosphohrylated pyruvate dehydrogenase complex(Mitochondrial Inr	9.073507
'TXN(Mitochondrial Inner membrane)'	8.958772
'cis-cis-3-6-Dodecadienoyl-CoA(Mitochondrial Inner membrane)'	8.91996
'Electron Leakage at Complex I(Mitochondrial Inner membrane)'	8.658966
'3-oxooctadecanoyl-CoA(cytosol)'	8.561409
'TXN(cytosol)'	8.345487
'NMDA receptor complex(cytosol)'	8.110252
'OH•(cytosol)'	8.029379
'L-Dopa(cytosol)'	7.951349
'tBID(cytosol)'	7.703375
'GSH(cytosol)'	7.521886
'MAP3K5(cytosol)'	7.417851
'misfolded SNCA(cytosol)'	7.399492
'TXN(Mitochondrial Inner membrane)'	7.025879
'MAPK1(cytosol)'	6.21573

'membrane depolarlization(cytosol)'	6.110252
'TNFR(cytosol)'	5.807019
'GSSG(cytosol)'	5.515713
'TXN(cytosol)'	5.339314
'MAPK1(cytosol)'	5.21573
'Na+(cytosol)'	5.110252
'TNF(default)'	4.807019
'Raf/Mek(cytosol)'	4.786517
'mtDNA mutations(Mitochondrial Inner membrane)'	4.638002
'ATP-sensitive K+ channel(Mitochondrial Inner membrane)'	4.461396
'Fe(II)(cytosol)'	4.44991
'UBL-acyl adenylate intermediate(cytosol)'	4.423464
'CREB1(Nucleus)'	4
'Palmitate(cytosol)'	3.9625
'Tyrosine 3-monooxygenase (Fe2+ cofactor)(cytosol)'	3.934956
'tBID:BAX(cytosol)'	3.822605
'Ras:GTP(cytosol)'	3.786517
'Calmodulin:CaMK IV(Nucleus)'	3.75
'ubiquitin(cytosol)'	3.166851
'Malonyl-CoA(cytosol)'	3.116288
'BAX(cytosol)'	3.099362
'Dopamine loaded synaptic vesicle(DA loaded synaptic vesicle)'	3.01391
'IL-1R(cytosol)'	3
'Jacob:importin alpha(Nucleus)'	3
'AMPK(cytosol)'	3
'Microgria activation(microglia)'	2.993377
'VAMP2(cytosol)'	2.909091
'Calmodulin:CaMK IV(cytosol)'	2.75
'Calmodulin(cytosol)'	2.574017
'HOO•(cytosol)'	2.520309
'CASP3(cytosol)'	2.41139
'CASP7(cytosol)'	2.41139
'CREB:TORC2(Nucleus)'	2.26771
'ROS(microglia)'	2.235465
'CREB:CBP(Nucleus)'	2.158548
'E3(cytosol)'	2.06596
'Autophagy induction(cytosol)'	2.030076
'O2-(Mitochondrial outer membrane)'	2.013158
'Caspase-2(cytosol)'	2
'Ca2+(Mitochondrial Inner membrane)'	2
'PAK2(cytosol)'	2
'IL1B(default)'	2
'L-Palmitoylcarnitine(Mitochondrial Inner membrane)'	2
'Jacob:importin alpha(cytosol)'	2
'alpha cynuclein(microglia)'	1.993377
'Acetate(Mitochondrial Inner membrane)'	1.948905
'Protein target(cytosol)'	1.892902
'RasGRF(cytosol)'	1.786517
'SMAC:XIAP:Caspase-3(cytosol)'	1.41139
'SMAC:XIAP:Caspase-7(cytosol)'	1.41139
'BAX(Mitochondrial outer membrane)'	1.1466
'CRTC2(cytosol)'	1.143091

'SLC25A14(Mitochondrial Inner membrane)'	1.117026
'SLC25A27(Mitochondrial Inner membrane)'	1.117026
'CREBBP(Nucleus)'	1.033929
'ATG1 kinase complex(cytosol)'	1.030076
'NADH-Q oxireductase (complex I)(Mitochondrial Inner membrane)'	1.007042
'isocitrate dehydrogenase(Mitochondrial Inner membrane)'	1.007042
'SOD2(Mitochondrial Inner membrane)'	1.007042
'HMGCS2(Mitochondrial Inner membrane)'	1.007042
'GLUD1(Mitochondrial Inner membrane)'	1.007042
'ACADL(Mitochondrial Inner membrane)'	1.007042
'26S hybrid proteasome(cytosol)'	1.006667
'D-Glucose 1-phosphate(cytosol)'	0.993151
'tBID:BCL-2(Mitochondrial outer membrane)'	0.992857
'L-Palmitoylcarnitine(Mitochondrial outer membrane)'	0.986928
'PPP2CA(cytosol)'	0.983871
'E2(cytosol)'	0.94
'Acetaldehyde(Mitochondrial Inner membrane)'	0.934307
'SNARE complex(cytosol)'	0.909091
'CaMKII:Calmodulin:Ca2(cytosol)'	0.90625
'O2(Mitochondrial Inner membrane)'	0.510114
'MAPK8(cytosol)'	0.37517
'palmitoyl-CoA(cytosol)'	0.281765
'MAPK9(cytosol)'	0.194627
'arachidonoyl-CoA(cytosol)'	0.183219
'MAP2K4(cytosol)'	0.180543
'Synapsin(cytosol)'	0.015152
'CPLX1(cytosol)'	0.015152
'SYT1(cytosol)'	0.015152
'SLC18A2(cytosol)'	0.015152
'Rab3:RIM(cytosol)'	0.015152
'Electron Leakage at Complex III(Mitochondrial outer membrane)'	0.013158
'APC fragment(778-2483)(cytosol)'	0
'DDC dimer (cytosol)'	0
'lactate dehydrogenase A3B complex(cytosol)'	0
'lactate dehydrogenase AB3 complex(cytosol)'	0
'lactate dehydrogenase A4 complex(cytosol)'	0
'Citrate Synthase Holoenzyme(Mitochondrial Inner membrane)'	0
'caspase-7(Nucleus)'	0
'DP-1:E2F1 complex(Nucleus)'	0
'BIM sequestered to dynein (DLC1)(cytosol)'	0
'alpha-ketoglutarate dehydrogenase complex(Mitochondrial Inner mei	0
'caspase-6(cytosol)'	0
'BAD:BCL-2(Mitochondrial outer membrane)'	0
'caspase-3(cytosol)'	0
'NNT dimer(Mitochondrial Inner membrane)'	0
'lactate dehydrogenase A2B2 complex(cytosol)'	0
'PDP2 complex(Mitochondrial Inner membrane)'	0
'isocitrate dehydrogenase 3 complex(Mitochondrial Inner membrane)'	0
'fumarate hydratase(Mitochondrial Inner membrane)'	0
'F0F1-ATP synthase (complex V)(Mitochondrial Inner membrane)'	0
'cytochrome c oxidase (complex IV)(Mitochondrial Inner membrane)'	0
'Tyrosine 3-monooxygenase (Fe2+ cofactor)(cytosol)'	0

'lactate dehydrogenase B4 complex(cytosol)'	0
'PDP1 complex(Mitochondrial Inner membrane)'	0
'malate dehydrogenase 2(Mitochondrial Inner membrane)'	0
'Succinyl-CoA ligase(Mitochondrial Inner membrane)'	0
'phospho-dynein(DLC2) on microtubules(cytosol)'	0
'BMF sequestered to dynein (DLC2)(cytosol)'	0

Aloha-synuclein pathobiology and misfolding

Species Name	Scores
Number of Species	**296**
'Protein misfolding(default)'	589
'ADP(cytosol)'	521.43739
'Cytochrome C:Apaf-1:ATP:Procaspase-9(cytosol)'	386.46952
'Apaf-1:Cytochrome C(cytosol)'	343.8658
'CYCS(cytosol)'	341.8658
'Pyruvate (cytosol)'	304.38168
'ATP(cytosol)'	287.71312
'inclusion bodies(cytosol)'	283.99053
'VDAC1(Mitochondrial outer membrane)'	282.8052
'K63-polyubiquitinated midfoded DJ-1(cytosol)'	281.99053
'Intrinsic apoptosis(Mitochondrial Inner membrane)'	281.77562
'Mitochondrial dysfunction(Mitochondrial Inner membrane)'	280.77562
'ubiquitin(cytosol)'	280.60958
'H+(Mitochondrial Inner membrane)'	263.24155
'L-Lactate (cytosol)'	254.31535
'ROS(Mitochondrial Inner membrane)'	214.14364
'NADH(cytosol)'	199.23172
'ROS(cytosol)'	194.78889
'H2O2(cytosol)'	189.55405
'H+(cytosol)'	189.51614
'Apoptosome (cytosol)'	177.00498
'Succinate dehydrogenase (complex II)(Mitochondrial Inner membrane	171.96774
'L-Malate (Mitochondrial Inner membrane)'	168.38914
'Succinate dehydrogenase (complex II)(Mitochondrial Inner membrane	167.55417
'NAD+(cytosol)'	166.96888
'Succinate(Mitochondrial Inner membrane)'	165.64435
'H+(Mitochondrial outer membrane)'	165.48779
'Fumarate (Mitochondrial Inner membrane)'	164.2101
'PAK2 (p34)(cytosol)'	161.52933
'Isocitrate(Mitochondrial Inner membrane)'	160.69994
'CoA-SH(Mitochondrial Inner membrane)'	160.40618
'Citrate(Mitochondrial Inner membrane)'	159.68555
'caspase-3(cytosol)'	157.52933
'mitochondria depolarization(Mitochondrial Inner membrane)'	156.70563
'membrane potential(Mitochondrial Inner membrane)'	151.72134
'Succinyl-CoA(Mitochondrial Inner membrane)'	150.85222
'CO2(Mitochondrial Inner membrane)'	148.72609
'Oxaloacetate (Mitochondrial Inner membrane)'	148.38355
'Acetyl-CoA(Mitochondrial Inner membrane)'	145.03174
'HMG CoA(Mitochondrial Inner membrane)'	140.9629
'E2- E3-substrate complex(cytosol)'	136.82472
'CoA-SH(cytosol)'	134.77611

'E2(cytosol)'	133.80284
'Complex_br_(ubiquitin/E1)(cytosol)'	132.73487
'UBA1(cytosol)'	131.09243
'Complex_br_(ubiquitin/E1)(cytosol)'	130.09243
'L-methylmalonyl-CoA(Mitochondrial Inner membrane)'	126.67358
'AMP(cytosol)'	126.29289
'D-methylmalonyl-CoA(Mitochondrial Inner membrane)'	124.67358
'NADH(Mitochondrial Inner membrane)'	119.47239
'Orthophosphate(Mitochondrial Inner membrane)'	114.83882
'acetoacetate(Mitochondrial Inner membrane)'	113.33151
'(S)-Hydroxydecanoyl-CoA(Mitochondrial Inner membrane)'	111.59985
'H2O2(Mitochondrial Inner membrane)'	110.50683
'trans-Dec-2-enoyl-CoA(Mitochondrial Inner membrane)'	110.36875
'Oxidative stress(Mitochondrial Inner membrane)'	110.04115
'ATP(Mitochondrial Inner membrane)'	103.6291
'3-Oxodecanoyl-CoA(Mitochondrial Inner membrane)'	101.6344
'DAG(cytosol)'	101.32313
'acetoacetyl-CoA(Mitochondrial Inner membrane)'	95.207368
'(S)-Hydroxyhexanoyl-CoA(Mitochondrial Inner membrane)'	91.710525
'trans-Hex-2-enoyl-CoA(Mitochondrial Inner membrane)'	90.479421
'Hexanoyl-CoA(Mitochondrial Inner membrane)'	88.488597
'K48 polyubiquitinated protein(cytosol)'	87.543151
'3-trans-decenoyl-CoA(Mitochondrial Inner membrane)'	86.331868
'Acetyl-CoA (Mitochondrial Inner membrane)'	83.530867
'D-beta hydroxybutyrate(Mitochondrial Inner membrane)'	82.214063
'H2O2(Mitochondrial outer membrane)'	81.918912
'E3(cytosol)'	81.744539
'CoA-SH (Mitochondrial Inner membrane)'	80.316924
'(S)-3-Hydroxy-3-methylglutaryl-CoA(Mitochondrial Inner membrane)'	80.172114
'Acetoacetyl-CoA(Mitochondrial Inner membrane)'	79.606803
'ADP(Mitochondrial Inner membrane)'	78.286302
'Butanoyl-CoA(Mitochondrial Inner membrane)'	78.201353
'(S)-3-Hydroxybutanoyl-CoA(Mitochondrial Inner membrane)'	76.916346
'3-Oxohexanoyl-CoA(Mitochondrial Inner membrane)'	76.301945
'Crotonoyl-CoA(Mitochondrial Inner membrane)'	75.685245
'Acetoacetate(Mitochondrial Inner membrane)'	70.392535
'O2(cytosol)'	63.745336
'G3P(cytosol)'	61.682819
'O2-(cytosol)'	61.643404
'Fe(III)(cytosol)'	61.435424
'CO2 (Mitochondrial Inner membrane)'	60.621308
'(S)-Hydroxyoctanoyl-CoA(Mitochondrial Inner membrane)'	60.229211
'2-Phospho-D-glycerate(cytosol)'	59.170471
'trans-Oct-2-enoyl-CoA(Mitochondrial Inner membrane)'	58.998105
'Phosphoenolpyruvate(cytosol)'	56.665251
'1-acyl LPA(cytosol)'	56.29298
'Protein target(cytosol)'	56.112469
'ATP-sensitive K+ channel(Mitochondrial Inner membrane)'	52.708998
'1-2-diacyl-glycerol 3-phosphate(cytosol)'	52.529132
'3-Oxooctanoyl-CoA(Mitochondrial Inner membrane)'	52.451244
'Octanoyl-CoA(Mitochondrial Inner membrane)'	49.733395
'CYCS(Nucleus)'	49.303236

'D-Glyceraldehyde 3-phosphate(cytosol)'	49.089087
'PPARGC1A(Nucleus)'	47.303236
'beta-D-Fructose 1-6-bisphosphate(cytosol)'	44.407512
'PPARGC1A(Nucleus)'	44.303236
'H2O(cytosol)'	43.794003
'beta-D-Fructose 6-phosphate(cytosol)'	43.310681
'alpha-D-Glucose 6-phosphate(cytosol)'	42.229888
'DIABLO(cytosol)'	41.381423
'CREB dependent_br_transcription(Nucleus)'	41.303236
'Glycerone phosphate(cytosol)'	40.9961
'3-Phospho-D-glycerate(cytosol)'	40.598054
'CASP9(cytosol)'	40.579913
'Dopamine(cytosol)'	40.093407
'SMAC:XIAP:Caspase-9(cytosol)'	39.579913
'4-cis-decenoyl-CoA(Mitochondrial Inner membrane)'	38.947956
'2-trans-4-cis-decadienoyl-CoA(Mitochondrial Inner membrane)'	38.615654
'BAK1(Mitochondrial outer membrane)'	37.206733
'Ca2+(cytosol)'	37.023017
'beta-D-Glucose 6-phosphate(cytosol)'	35.58669
'Acetyl-CoA(cytosol)'	35.461947
'Pyruvate (Mitochondrial Inner membrane)'	35.139418
'2-3-Bisphospho-D-glycerate(cytosol)'	33.894239
'Palmitate(cytosol)'	33.291784
'1-3-Bisphospho-D-glycerate(cytosol)'	32.524154
'CREB:TORC1(Nucleus)'	32.244348
'GSH(Mitochondrial Inner membrane)'	31.789464
'FADH2(Mitochondrial Inner membrane)'	31.313035
'H2O(Mitochondrial Inner membrane)'	29.724179
'DOPAL(cytosol)'	29.677618
'NAD+(Mitochondrial Inner membrane)'	27.789963
'Autophagosome(cytosol)'	27.619431
'GSSG(Mitochondrial Inner membrane)'	27.571567
'Dopamine(default)'	27.45753
'Docked dopamine loaded synaptic vesicle(Docked DA loaded synaptic	26.431214
'OH•(cytosol)'	25.836945
'ubiquinol(Mitochondrial Inner membrane)'	25.302958
'NADP+(Mitochondrial Inner membrane)'	25.188728
'NADPH(Mitochondrial Inner membrane)'	25.162943
'FAD(Mitochondrial Inner membrane)'	25.028814
'(S)-3-Hydroxydodecanoyl-CoA(Mitochondrial Inner membrane)'	24.385207
'Pentose phosphate pathway(cytosol)'	23.516856
'MAPK10(cytosol)'	22.789023
'Decanoyl-CoA(Mitochondrial Inner membrane)'	22.540796
'Lauroyl-CoA(Mitochondrial Inner membrane)'	22.537474
'MAP2K7(cytosol)'	22.490401
'Malonyl-CoA(cytosol)'	22.351995
'2-trans-Dodecenoyl-CoA(Mitochondrial Inner membrane)'	22.189312
'SNCA (oligomer)(cytosol)'	20.700218
'3-Oxododecanoyl-CoA(Mitochondrial Inner membrane)'	20.424836
'3-Oxotetradecanoyl-CoA(Mitochondrial Inner membrane)'	20.28986
'L-Lactate (default)'	19.478099
'ubiquinone(Mitochondrial Inner membrane)'	19.423384

'SNCA (fibril)(cytosol)'	18.623327
'membrane permeability(Mitochondrial Inner membrane)'	17.824579
'CRTC1(Nucleus)'	17.55597
'ROS(default)'	17.16499
'2-Oxoglutarate(Mitochondrial Inner membrane)'	17.115317
'(S)-3-Hydroxytetradecanoyl-CoA(Mitochondrial Inner membrane)'	16.650773
'misfolded SNCA(cytosol)'	16.498421
'CYCS(Mitochondrial Inner membrane)'	16.253502
'myristoyl-CoA(Mitochondrial Inner membrane)'	15.781661
'AMPA receptors containing GluR2 (homomers)(cytosol)'	15.706349
'trans-Tetradec-2-enoyl-CoA(Mitochondrial Inner membrane)'	15.41941
'Autolysosome(cytosol)'	14.714478
'(R)-2-hydroxyglutarate(Mitochondrial Inner membrane)'	14.701995
'4-hydroxybutyrate(Mitochondrial Inner membrane)'	14.477542
'(S)-3-Hydroxyhexadecanoyl-CoA(Mitochondrial Inner membrane)'	14.338452
'CREB1(Nucleus)'	13.922571
'AMPA receptor ligand complex(cytosol)'	13.90243
'H+(default)'	13.613991
'HOO•(cytosol)'	13.566673
'3-Oxopalmitoyl-CoA(Mitochondrial Inner membrane)'	13.438881
'LC3:VDAC1:HDAC6:p62(cytosol)'	13.362289
'trans-Hexadec-2-enoyl-CoA(Mitochondrial Inner membrane)'	12.932381
'H2O (Mitochondrial Inner membrane)'	12.915602
'pyruvate dehydrogenase complex(Mitochondrial Inner membrane)'	12.762498
'Fe(II)(cytosol)'	12.576101
'succinate semialdehyde(Mitochondrial Inner membrane)'	12.555011
'BAK1(Mitochondrial outer membrane)'	12.288406
'palmitoyl-CoA(Mitochondrial Inner membrane)'	12.123672
'VDAC1:HDAC6:p62(cytosol)'	11.362289
'CYCS(Mitochondrial Inner membrane)'	11.321684
'tBID:BAK(Mitochondrial outer membrane)'	11.288406
'3-hydroxyoctadecanoyl-CoA(cytosol)'	11.267861
'ASK1 signalsome(cytosol)'	11.114221
'tBID(Mitochondrial outer membrane)'	10.288406
'TAK1(cytosol)'	10.157896
'ASK1 signalsome(cytosol)'	10.114221
'alpha-D-Glucose(cytosol)'	10.006476
'NMDA receptor complex(cytosol)'	9.74757
'O2-(Mitochondrial Inner membrane)'	9.262726
'Isolation membrane (IM)(cytosol)'	9.257143
'beta-D-Glucose(cytosol)'	9.124266
'AKAP5(cytosol)'	8.986113
'EPB41L1(cytosol)'	8.986113
'Raf/Mek(cytosol)'	8.854974
'NAD+ (Mitochondrial Inner membrane)'	8.742819
'TXN(Mitochondrial Inner membrane)'	8.670376
'TXN(cytosol)'	8.602556
'VDAC1(Mitochondrial outer membrane)'	8.362289
'trans-cis-Lauro-2-6-dienoyl-CoA (Mitochondrial Inner membrane)'	8.317948
'permiable pore(cytosol)'	8.316668
'MAPK1(cytosol)'	8.216311
'L-Dopa(cytosol)'	7.883983

'Ras:GTP(cytosol)'	7.854974
'NMDA receptor complex(cytosol)'	7.748363
'3-oxooctadecanoyl-CoA(cytosol)'	7.649295
'PINK1:PARK2(Mitochondrial outer membrane)'	7.350455
'cis-cis-3-6-Dodecadienoyl-CoA(Mitochondrial Inner membrane)'	7.302323
'Orthophosphate(cytosol)'	7.271514
'phosphohrylated pyruvate dehydrogenase complex(Mitochondrial Inr	7.257335
'MAPK1(cytosol)'	7.216311
'TXN(Mitochondrial Inner membrane)'	6.988683
'tBID(cytosol)'	6.835531
'Calmodulin(cytosol)'	6.318388
'MAP3K5(cytosol)'	6.114221
'RasGRF(cytosol)'	5.854974
'Electron Leakage at Complex III(Mitochondrial Inner membrane)'	5.816784
'membrane depolarlization(cytosol)'	5.748363
'TXN(cytosol)'	5.574778
'GSH(cytosol)'	5.435607
'TNFR(cytosol)'	5.157896
'BAX(Mitochondrial outer membrane)'	4.932051
'Na+(cytosol)'	4.748363
'SLC25A14(Mitochondrial Inner membrane)'	4.70423
'SLC25A27(Mitochondrial Inner membrane)'	4.70423
'TNF(default)'	4.157896
'PINK1(Mitochondrial outer membrane)'	4.066667
'CREB1(Nucleus)'	4
'CASP3(cytosol)'	3.900755
'CASP7(cytosol)'	3.900755
'Tyrosine 3-monooxygenase (Fe2+ cofactor)(cytosol)'	3.85368
'BAX(cytosol)'	3.494001
'tBID:BAX(cytosol)'	3.410613
'GSSG(cytosol)'	3.407829
'Calmodulin:CaMK IV(Nucleus)'	3.317074
'CREB:TORC2(Nucleus)'	3.281899
'classic PI3K complex(cytosol)'	3.066667
'Dopamine loaded synaptic vesicle(DA loaded synaptic vesicle)'	3.021382
'IL-1R(cytosol)'	3
'Jacob:importin alpha(Nucleus)'	3
'AMPK(cytosol)'	3
'Microgria activation(microglia)'	3
'SMAC:XIAP:Caspase-3(cytosol)'	2.900755
'SMAC:XIAP:Caspase-7(cytosol)'	2.900755
'VAMP2(cytosol)'	2.815789
'CREB:CBP(Nucleus)'	2.776994
'?-synuclein aggregation(cytosol)'	2.5
'Calmodulin:CaMK IV(cytosol)'	2.317074
'Autophagy induction(cytosol)'	2.190476
'Fe(II)(Mitochondrial Inner membrane)'	2.169186
'O2-(Mitochondrial outer membrane)'	2.041667
'Fe(III)(Mitochondrial Inner membrane)'	2.032656
'Caspase-2(cytosol)'	2
'Ca2+(Mitochondrial Inner membrane)'	2
'PAK2(cytosol)'	2

'PINK1(Mitochondrial outer membrane)'	2
'IL1B(default)'	2
'L-Palmitoylcarnitine(Mitochondrial Inner membrane)'	2
'Jacob:importin alpha(cytosol)'	2
'alpha cynuclein(microglia)'	2
'Acetate(Mitochondrial Inner membrane)'	1.929078
'ROS(microglia)'	1.842104
'CRTC2(cytosol)'	1.664798
'MAPK8(cytosol)'	1.632412
'OH•(Mitochondrial Inner membrane)'	1.591477
'ATG1 kinase complex(cytosol)'	1.190476
'CREBBP(Nucleus)'	1.159891
'BECN1(cytosol)'	1.133333
'26S hybrid proteasome(cytosol)'	1.032258
'HMGCS2(Mitochondrial Inner membrane)'	1.013158
'ACADL(Mitochondrial Inner membrane)'	1.013158
'NADH-Q oxireductase (complex I)(Mitochondrial Inner membrane)'	1.006579
'isocitrate dehydrogenase(Mitochondrial Inner membrane)'	1.006579
'SOD2(Mitochondrial Inner membrane)'	1.006579
'GLUD1(Mitochondrial Inner membrane)'	1.006579
'ROS(astrocyte)'	1
'Lysosome biogenesis(cytosol)'	1
'D-Glucose 1-phosphate(cytosol)'	0.982456
'L-Palmitoylcarnitine(Mitochondrial outer membrane)'	0.981818
'PPP2CA(cytosol)'	0.942857
'Protein target(cytosol)'	0.942007
'mtDNA deletion(Mitochondrial Inner membrane)'	0.923077
'Acetaldehyde(Mitochondrial Inner membrane)'	0.907801
'E2(cytosol)'	0.903226
'tBID:BCL-2(Mitochondrial outer membrane)'	0.866667
'MAPK9(cytosol)'	0.850682
'SNARE complex(cytosol)'	0.815789
'MAP2K4(cytosol)'	0.781716
'CaMKII:Calmodulin:Ca2(cytosol)'	0.76539
'palmitoyl-CoA(cytosol)'	0.722801
'UBL-acyl adenylate intermediate(cytosol)'	0.606726
'HOO•(Mitochondrial Inner membrane)'	0.574896
'arachidonoyl-CoA(cytosol)'	0.373313
'O2(Mitochondrial Inner membrane)'	0.366404
'Electron Leakage at Complex I(Mitochondrial Inner membrane)'	0.079539
'Electron Leakage at Complex III(Mitochondrial outer membrane)'	0.041667
'mtDNA mutations(Mitochondrial Inner membrane)'	0.038462
'Synapsin(cytosol)'	0.026316
'CPLX1(cytosol)'	0.026316
'SYT1(cytosol)'	0.026316
'SLC18A2(cytosol)'	0.026316
'Rab3:RIM(cytosol)'	0.026316
'APC fragment(778-2483)(cytosol)'	0
'DDC dimer (cytosol)'	0
'lactate dehydrogenase A3B complex(cytosol)'	0
'lactate dehydrogenase AB3 complex(cytosol)'	0
'lactate dehydrogenase A4 complex(cytosol)'	0

'Citrate Synthase Holoenzyme(Mitochondrial Inner membrane)'	0
'caspase-7(Nucleus)'	0
'DP-1:E2F1 complex(Nucleus)'	0
'BIM sequestered to dynein (DLC1)(cytosol)'	0
'alpha-ketoglutarate dehydrogenase complex(Mitochondrial Inner mer	0
'caspase-6(cytosol)'	0

Synaptic dysfunction

Species Name	Scores
Number of Species	**276**
'SNCA (oligomer)(cytosol)'	545
'ROS(cytosol)'	535.98
'H2O2(cytosol)'	528.38595
'H+(cytosol)'	524.91749
'ADP(cytosol)'	512.74123
'Pyruvate (cytosol)'	435.41568
'Cytochrome C:Apaf-1:ATP:Procaspase-9(cytosol)'	360.3296
'NAD+(cytosol)'	332.3257
'Apaf-1:Cytochrome C(cytosol)'	320.24705
'CYCS(cytosol)'	318.24705
'VDAC1(Mitochondrial outer membrane)'	274.77864
'Intrinsic apoptosis(Mitochondrial Inner membrane)'	273.74371
'Mitochondrial dysfunction(Mitochondrial Inner membrane)'	272.74371
'L-Lactate (cytosol)'	268.61312
'H+(Mitochondrial Inner membrane)'	251.39586
'ATP(cytosol)'	232.33617
'ROS(Mitochondrial Inner membrane)'	191.39007
'H+(Mitochondrial outer membrane)'	187.84554
'mitochondria depolarization(Mitochondrial Inner membrane)'	182.03622
'2-3-Bisphospho-D-glycerate(cytosol)'	177.9975
'membrane potential(Mitochondrial Inner membrane)'	174.75829
'NADH(cytosol)'	171.33918
'Apoptosome (cytosol)'	167.85011
'Orthophosphate(cytosol)'	166.99173
'Succinate dehydrogenase (complex II)(Mitochondrial Inner membrane	153.7139
'PAK2 (p34)(cytosol)'	153.56714
'caspase-3(cytosol)'	149.56714
'Succinate dehydrogenase (complex II)(Mitochondrial Inner membrane	149.4037
'L-Malate (Mitochondrial Inner membrane)'	148.3926
'Succinate(Mitochondrial Inner membrane)'	146.74277
'EPB41L1(cytosol)'	145.62697
'Fumarate (Mitochondrial Inner membrane)'	145.41305
'CoA-SH(Mitochondrial Inner membrane)'	143.78111
'Isocitrate(Mitochondrial Inner membrane)'	143.33049
'Citrate(Mitochondrial Inner membrane)'	142.31495
'AKAP5(cytosol)'	136.14638
'Succinyl-CoA(Mitochondrial Inner membrane)'	135.45246
'Acetyl-CoA(Mitochondrial Inner membrane)'	134.57546
'CO2(Mitochondrial Inner membrane)'	133.2252
'HMG CoA(Mitochondrial Inner membrane)'	130.11449
'Oxaloacetate (Mitochondrial Inner membrane)'	129.96369
'3-Phospho-D-glycerate(cytosol)'	123.51801

'L-methylmalonyl-CoA(Mitochondrial Inner membrane)'	110.88814
'NADH(Mitochondrial Inner membrane)'	109.16184
'D-methylmalonyl-CoA(Mitochondrial Inner membrane)'	108.88814
'2-Phospho-D-glycerate(cytosol)'	106.32895
'(S)-Hydroxydecanoyl-CoA(Mitochondrial Inner membrane)'	106.12704
'trans-Dec-2-enoyl-CoA(Mitochondrial Inner membrane)'	104.95992
'acetoacetate(Mitochondrial Inner membrane)'	102.39762
'Phosphoenolpyruvate(cytosol)'	101.58865
'3-Oxodecanoyl-CoA(Mitochondrial Inner membrane)'	96.648157
'Orthophosphate(Mitochondrial Inner membrane)'	94.005616
'ATP(Mitochondrial Inner membrane)'	88.24649
'(S)-Hydroxyhexanoyl-CoA(Mitochondrial Inner membrane)'	87.715651
'trans-Hex-2-enoyl-CoA(Mitochondrial Inner membrane)'	86.548515
'1-3-Bisphospho-D-glycerate(cytosol)'	85.939274
'Hexanoyl-CoA(Mitochondrial Inner membrane)'	84.555129
'acetoacetyl-CoA(Mitochondrial Inner membrane)'	84.390913
'3-trans-decenoyl-CoA(Mitochondrial Inner membrane)'	80.670285
'H2O2(Mitochondrial outer membrane)'	78.332585
'H2O2(Mitochondrial Inner membrane)'	76.320874
'Acetyl-CoA (Mitochondrial Inner membrane)'	75.571442
'Butanoyl-CoA(Mitochondrial Inner membrane)'	75.038228
'(S)-3-Hydroxybutanoyl-CoA(Mitochondrial Inner membrane)'	74.677762
'3-Oxohexanoyl-CoA(Mitochondrial Inner membrane)'	73.656292
'Crotonoyl-CoA(Mitochondrial Inner membrane)'	73.510629
'D-beta hydroxybutyrate(Mitochondrial Inner membrane)'	73.231812
'Oxidative stress(Mitochondrial Inner membrane)'	72.512163
'(S)-3-Hydroxy-3-methylglutaryl-CoA(Mitochondrial Inner membrane)'	72.469975
'CoA-SH (Mitochondrial Inner membrane)'	72.208001
'Acetoacetyl-CoA(Mitochondrial Inner membrane)'	71.308865
'K48 polyubiquitinated protein(cytosol)'	68.727553
'CoA-SH(cytosol)'	67.576593
'ADP(Mitochondrial Inner membrane)'	62.799481
'E2- E3-substrate complex(cytosol)'	62.045289
'Acetoacetate(Mitochondrial Inner membrane)'	61.036672
'Protein target(cytosol)'	59.586389
'E2(cytosol)'	57.524086
'alpha-D-Glucose 6-phosphate(cytosol)'	56.988179
'Complex_br_(ubiquitin/E1)(cytosol)'	56.221055
'(S)-Hydroxyoctanoyl-CoA(Mitochondrial Inner membrane)'	54.362349
'UBA1(cytosol)'	53.871539
'DAG(cytosol)'	53.485762
'trans-Oct-2-enoyl-CoA(Mitochondrial Inner membrane)'	53.195212
'Complex_br_(ubiquitin/E1)(cytosol)'	52.871539
'ATP-sensitive K+ channel(Mitochondrial Inner membrane)'	52.465712
'3-Oxooctanoyl-CoA(Mitochondrial Inner membrane)'	47.688649
'AMP(cytosol)'	47.047071
'DOPAL(cytosol)'	44.676571
'Octanoyl-CoA(Mitochondrial Inner membrane)'	43.246595
'Pentose phosphate pathway(cytosol)'	41.999801
'2-trans-4-cis-decadienoyl-CoA(Mitochondrial Inner membrane)'	39.28964
'4-cis-decenoyl-CoA(Mitochondrial Inner membrane)'	39.141842
'CO2 (Mitochondrial Inner membrane)'	39.139451

'DIABLO(cytosol)'	38.459441
'CASP9(cytosol)'	37.809325
'Dopamine(cytosol)'	37.359196
'beta-D-Glucose 6-phosphate(cytosol)'	37.104838
'SMAC:XIAP:Caspase-9(cytosol)'	36.809325
'CYCS(Nucleus)'	35.252525
'BAK1(Mitochondrial outer membrane)'	34.183492
'PPARGC1A(Nucleus)'	33.252525
'H2O(cytosol)'	32.726917
'GSH(Mitochondrial Inner membrane)'	31.833807
'beta-D-Fructose 1-6-bisphosphate(cytosol)'	31.592025
'O2(cytosol)'	30.639959
'L-Lactate (default)'	30.391424
'PPARGC1A(Nucleus)'	30.252525
'D-Glyceraldehyde 3-phosphate(cytosol)'	29.832395
'H2O(Mitochondrial Inner membrane)'	29.589909
'Fe(III)(cytosol)'	29.252889
'O2-(cytosol)'	28.322584
'GSSG(Mitochondrial Inner membrane)'	27.628494
'CREB dependent_br_transcription(Nucleus)'	27.252525
'FADH2(Mitochondrial Inner membrane)'	27.136032
'H+(default)'	26.626138
'Acetyl-CoA(cytosol)'	26.178537
'NADP+(Mitochondrial Inner membrane)'	24.815558
'(S)-3-Hydroxydodecanoyl-CoA(Mitochondrial Inner membrane)'	24.65287
'NAD+(Mitochondrial Inner membrane)'	24.576326
'NADPH(Mitochondrial Inner membrane)'	24.408616
'Dopamine(default)'	24.379196
'membrane permeability(Mitochondrial Inner membrane)'	24.276389
'ubiquinol(Mitochondrial Inner membrane)'	24.23609
'Docked dopamine loaded synaptic vesicle(Docked DA loaded synaptic	23.28991
'2-trans-Dodecenoyl-CoA(Mitochondrial Inner membrane)'	22.511639
'Lauroyl-CoA(Mitochondrial Inner membrane)'	22.364608
'Decanoyl-CoA(Mitochondrial Inner membrane)'	22.271597
'3-Oxododecanoyl-CoA(Mitochondrial Inner membrane)'	20.686252
'3-Oxotetradecanoyl-CoA(Mitochondrial Inner membrane)'	20.651136
'beta-D-Fructose 6-phosphate(cytosol)'	20.410742
'FAD(Mitochondrial Inner membrane)'	20.173127
'OH•(cytosol)'	20.037842
'ubiquinone(Mitochondrial Inner membrane)'	19.340376
'MAPK10(cytosol)'	19.243808
'CREB:TORC1(Nucleus)'	18.959374
'Ca2+(cytosol)'	18.523799
'MAP2K7(cytosol)'	18.230667
'misfolded SNCA(cytosol)'	17.69158
'(S)-3-Hydroxytetradecanoyl-CoA(Mitochondrial Inner membrane)'	16.605083
'CYCS(Mitochondrial Inner membrane)'	16.265323
'1-2-diacyl-glycerol 3-phosphate(cytosol)'	15.758845
'2-Oxoglutarate(Mitochondrial Inner membrane)'	15.753531
'trans-Tetradec-2-enoyl-CoA(Mitochondrial Inner membrane)'	15.437722
'myristoyl-CoA(Mitochondrial Inner membrane)'	15.31131
'(R)-2-hydroxyglutarate(Mitochondrial Inner membrane)'	14.734986

'(S)-3-Hydroxyhexadecanoyl-CoA(Mitochondrial Inner membrane)'	14.529626
'4-hydroxybutyrate(Mitochondrial Inner membrane)'	14.503997
'alpha-D-Glucose(cytosol)'	14.302022
'CREB1(Nucleus)'	13.997579
'beta-D-Glucose(cytosol)'	13.52885
'3-Oxopalmitoyl-CoA(Mitochondrial Inner membrane)'	13.503562
'trans-Hexadec-2-enoyl-CoA(Mitochondrial Inner membrane)'	13.066198
'succinate semialdehyde(Mitochondrial Inner membrane)'	12.578834
'H2O (Mitochondrial Inner membrane)'	12.435922
'BAK1(Mitochondrial outer membrane)'	12.428839
'Pyruvate (Mitochondrial Inner membrane)'	12.102069
'pyruvate dehydrogenase complex(Mitochondrial Inner membrane)'	12.060576
'palmitoyl-CoA(Mitochondrial Inner membrane)'	11.724933
'tBID:BAK(Mitochondrial outer membrane)'	11.428839
'CYCS(Mitochondrial Inner membrane)'	11.343448
'NMDA receptor complex(cytosol)'	11.33619
'TAK1(cytosol)'	10.81818
'HOO•(cytosol)'	10.549799
'tBID(Mitochondrial outer membrane)'	10.428839
'3-hydroxyoctadecanoyl-CoA(cytosol)'	10.4085
'1-acyl LPA(cytosol)'	10.171906
'Fe(II)(cytosol)'	9.829182
'NMDA receptor complex(cytosol)'	9.352575
'O2-(Mitochondrial Inner membrane)'	9.206389
'TXN(Mitochondrial Inner membrane)'	8.537245
'trans-cis-Lauro-2-6-dienoyl-CoA (Mitochondrial Inner membrane)'	8.39181
'Glycerone phosphate(cytosol)'	8.301881
'L-Dopa(cytosol)'	7.777959
'TXN(cytosol)'	7.775786
'NAD+ (Mitochondrial Inner membrane)'	7.614387
'3-oxooctadecanoyl-CoA(cytosol)'	7.566395
'Raf/Mek(cytosol)'	7.530009
'cis-cis-3-6-Dodecadienoyl-CoA(Mitochondrial Inner membrane)'	7.374764
'membrane depolarlization(cytosol)'	7.352575
'phosphohrylated pyruvate dehydrogenase complex(Mitochondrial Inr	7.077644
'TXN(Mitochondrial Inner membrane)'	6.949904
'MAPK1(cytosol)'	6.919066
'tBID(cytosol)'	6.809791
'Ras:GTP(cytosol)'	6.530009
'Na+(cytosol)'	6.352575
'G3P(cytosol)'	6.076239
'MAPK1(cytosol)'	5.919066
'ASK1 signalsome(cytosol)'	5.857143
'TNFR(cytosol)'	5.81818
'Electron Leakage at Complex III(Mitochondrial Inner membrane)'	5.805546
'AMPA receptors containing GluR2 (homomers)(cytosol)'	5.523799
'Calmodulin(cytosol)'	5.003693
'ASK1 signalsome(cytosol)'	4.857143
'TNF(default)'	4.81818
'TXN(cytosol)'	4.758242
'RasGRF(cytosol)'	4.530009
'CASP7(cytosol)'	4.433416

'ROS(default)'	4.18182
'CREB1(Nucleus)'	4
'GSH(cytosol)'	3.863698
'CRTC1(Nucleus)'	3.835061
'Tyrosine 3-monooxygenase (Fe2+ cofactor)(cytosol)'	3.714129
'Palmitate(cytosol)'	3.709448
'UBL-acyl adenylate intermediate(cytosol)'	3.658832
'BAX(Mitochondrial outer membrane)'	3.491831
'E3(cytosol)'	3.481628
'BAX(cytosol)'	3.480791
'SMAC:XIAP:Caspase-7(cytosol)'	3.433416
'tBID:BAX(cytosol)'	3.364656
'Calmodulin:CaMK IV(Nucleus)'	3.333334
'SLC25A14(Mitochondrial Inner membrane)'	3.32725
'SLC25A27(Mitochondrial Inner membrane)'	3.32725
'ubiquitin(cytosol)'	3.252134
'CASP3(cytosol)'	3.216713
'Malonyl-CoA(cytosol)'	3.193437
'IL-1R(cytosol)'	3
'Jacob:importin alpha(Nucleus)'	3
'AMPK(cytosol)'	3
'Microgria activation(microglia)'	3
'Dopamine loaded synaptic vesicle(DA loaded synaptic vesicle)'	2.971884
'VAMP2(cytosol)'	2.785714
'CREB:TORC2(Nucleus)'	2.742484
'CREB:CBP(Nucleus)'	2.550671
'Calmodulin:CaMK IV(cytosol)'	2.333334
'SMAC:XIAP:Caspase-3(cytosol)'	2.216713
'Fe(II)(Mitochondrial Inner membrane)'	2.189236
'AMPA receptor ligand complex(cytosol)'	2.123605
'O2-(Mitochondrial outer membrane)'	2.043478
'Fe(III)(Mitochondrial Inner membrane)'	2.022882
'Caspase-2(cytosol)'	2
'Ca2+(Mitochondrial Inner membrane)'	2
'PAK2(cytosol)'	2
'IL1B(default)'	2
'L-Palmitoylcarnitine(Mitochondrial Inner membrane)'	2
'Jacob:importin alpha(cytosol)'	2
'alpha cynuclein(microglia)'	2
'Acetate(Mitochondrial Inner membrane)'	1.933673
'GSSG(cytosol)'	1.846154
'Protein target(cytosol)'	1.642415
'OH•(Mitochondrial Inner membrane)'	1.590141
'CRTC2(cytosol)'	1.305849
'ROS(microglia)'	1.18182
'CREBBP(Nucleus)'	1.114036
'26S hybrid proteasome(cytosol)'	1.045455
'HMGCS2(Mitochondrial Inner membrane)'	1.014019
'ACADL(Mitochondrial Inner membrane)'	1.014019
'NADH-Q oxireductase (complex I)(Mitochondrial Inner membrane)'	1.009346
'isocitrate dehydrogenase(Mitochondrial Inner membrane)'	1.004673
'SOD2(Mitochondrial Inner membrane)'	1.004673

'GLUD1(Mitochondrial Inner membrane)'	1.004673
'tBID:BCL-2(Mitochondrial outer membrane)'	1
'ROS(astrocyte)'	1
'L-Palmitoylcarnitine(Mitochondrial outer membrane)'	0.982222
'PPP2CA(cytosol)'	0.98
'D-Glucose 1-phosphate(cytosol)'	0.967742
'MAPK8(cytosol)'	0.938082
'mtDNA deletion(Mitochondrial Inner membrane)'	0.921053
'Acetaldehyde(Mitochondrial Inner membrane)'	0.913265
'MAP3K5(cytosol)'	0.857143
'palmitoyl-CoA(cytosol)'	0.839344
'E2(cytosol)'	0.818182
'SNARE complex(cytosol)'	0.785714
'CaMKII:Calmodulin:Ca2(cytosol)'	0.778281
'HOO•(Mitochondrial Inner membrane)'	0.64247
'MAPK9(cytosol)'	0.493436
'MAP2K4(cytosol)'	0.444656
'arachidonoyl-CoA(cytosol)'	0.368473
'O2(Mitochondrial Inner membrane)'	0.343721
'Electron Leakage at Complex I(Mitochondrial Inner membrane)'	0.057121
'Rab3:RIM(cytosol)'	0.053571
'Electron Leakage at Complex III(Mitochondrial outer membrane)'	0.043478
'mtDNA mutations(Mitochondrial Inner membrane)'	0.026316
'Synapsin(cytosol)'	0.017857
'CPLX1(cytosol)'	0.017857
'SYT1(cytosol)'	0.017857
'SLC18A2(cytosol)'	0.017857
'APC fragment(778-2483)(cytosol)'	0
'DDC dimer (cytosol)'	0
'lactate dehydrogenase A3B complex(cytosol)'	0
'lactate dehydrogenase AB3 complex(cytosol)'	0
'lactate dehydrogenase A4 complex(cytosol)'	0
'Citrate Synthase Holoenzyme(Mitochondrial Inner membrane)'	0
'caspase-7(Nucleus)'	0
'DP-1:E2F1 complex(Nucleus)'	0
'BIM sequestered to dynein (DLC1)(cytosol)'	0
'alpha-ketoglutarate dehydrogenase complex(Mitochondrial Inner mer	0
'caspase-6(cytosol)'	0
'BAD:BCL-2(Mitochondrial outer membrane)'	0
'caspase-3(cytosol)'	0
'NNT dimer(Mitochondrial Inner membrane)'	0
'lactate dehydrogenase A2B2 complex(cytosol)'	0
'PDP2 complex(Mitochondrial Inner membrane)'	0
'isocitrate dehydrogenase 3 complex(Mitochondrial Inner membrane)'	0
'fumarate hydratase(Mitochondrial Inner membrane)'	0
'F0F1-ATP synthase (complex V)(Mitochondrial Inner membrane)'	0
'cytochrome c oxidase (complex IV)(Mitochondrial Inner membrane)'	0
'Tyrosine 3-monooxygenase (Fe2+ cofactor)(cytosol)'	0
'lactate dehydrogenase B4 complex(cytosol)'	0
'PDP1 complex(Mitochondrial Inner membrane)'	0
'malate dehydrogenase 2(Mitochondrial Inner membrane)'	0
'Succinyl-CoA ligase(Mitochondrial Inner membrane)'	0

'phospho-dynein(DLC2) on microtubules(cytosol)'	0
'BMF sequestered to dynein (DLC2)(cytosol)'	0
'phospho-dynein(DLC1) on microtubules(cytosol)'	0
'143B:phospo-BAD complex(cytosol)'	0
'Caspase-8 dimer(cytosol)'	0
'Bcl2:BH3-only protein complex(Mitochondrial outer membrane)'	0

All pathways (combined)

Species Name	Scores
Number of Species	**308**
'ADP(cytosol)'	2255.144987
'H+(cytosol)'	1850.9084
'Pyruvate (cytosol)'	1799.815187
'H+(Mitochondrial Inner membrane)'	1550.091631
'ROS(cytosol)'	1488.538163
'Cytochrome C:Apaf-1:ATP:Procaspase-9(cytosol)'	1471.959171
'H2O2(cytosol)'	1469.569654
'L-Lactate (cytosol)'	1407.799566
'ATP(cytosol)'	1368.096115
'NAD+(cytosol)'	1331.76538
'ROS(Mitochondrial Inner membrane)'	1326.839903
'Apaf-1:Cytochrome C(cytosol)'	1247.87683
'CYCS(cytosol)'	1237.87683
'Succinate dehydrogenase (complex II)(Mitochondrial Inner membrane	1128.582903
'L-Malate (Mitochondrial Inner membrane)'	1111.008654
'Succinate(Mitochondrial Inner membrane)'	1100.964412
'Succinate dehydrogenase (complex II)(Mitochondrial Inner membrane	1097.873625
'Fumarate (Mitochondrial Inner membrane)'	1085.095298
'NADH(cytosol)'	1076.652939
'Isocitrate(Mitochondrial Inner membrane)'	1041.126746
'CoA-SH(Mitochondrial Inner membrane)'	1039.384349
'Citrate(Mitochondrial Inner membrane)'	1036.056725
'Oxaloacetate (Mitochondrial Inner membrane)'	1006.75429
'Intrinsic apoptosis(Mitochondrial Inner membrane)'	991.310041
'Mitochondrial dysfunction(Mitochondrial Inner membrane)'	991.121105
'Succinyl-CoA(Mitochondrial Inner membrane)'	978.867215
'CO2(Mitochondrial Inner membrane)'	968.817703
'VDAC1(Mitochondrial outer membrane)'	968.140335
'2-3-Bisphospho-D-glycerate(cytosol)'	963.275057
'Acetyl-CoA(Mitochondrial Inner membrane)'	921.546928
'HMG CoA(Mitochondrial Inner membrane)'	896.047765
'Orthophosphate(cytosol)'	869.492344
'Apoptosome (cytosol)'	869.10055
'L-methylmalonyl-CoA(Mitochondrial Inner membrane)'	868.994651
'D-methylmalonyl-CoA(Mitochondrial Inner membrane)'	858.994651
'Orthophosphate(Mitochondrial Inner membrane)'	849.525864
'H+(Mitochondrial outer membrane)'	830.881597
'H2O2(Mitochondrial Inner membrane)'	827.478927
'3-Phospho-D-glycerate(cytosol)'	824.364033
'PAK2 (p34)(cytosol)'	822.279269
'caspase-3(cytosol)'	802.279269
'NADH(Mitochondrial Inner membrane)'	789.929824

'2-Phospho-D-glycerate(cytosol)'	766.283647
'membrane potential(Mitochondrial Inner membrane)'	764.960514
'acetoacetate(Mitochondrial Inner membrane)'	749.732875
'Phosphoenolpyruvate(cytosol)'	746.876428
'ATP(Mitochondrial Inner membrane)'	726.927265
'1-3-Bisphospho-D-glycerate(cytosol)'	719.856375
'SNCA (oligomer)(cytosol)'	678.813235
'(S)-Hydroxydecanoyl-CoA(Mitochondrial Inner membrane)'	674.804263
'trans-Dec-2-enoyl-CoA(Mitochondrial Inner membrane)'	668.814376
'acetoacetyl-CoA(Mitochondrial Inner membrane)'	631.962214
'EPB41L1(cytosol)'	622.31234
'3-Oxodecanoyl-CoA(Mitochondrial Inner membrane)'	614.585219
'AKAP5(cytosol)'	596.641759
'mitochondria depolarization(Mitochondrial Inner membrane)'	596.267657
'Mitochondrial dysfunction(default)'	591
'Protein misfolding(default)'	589
'(S)-Hydroxyhexanoyl-CoA(Mitochondrial Inner membrane)'	586.428999
'Acetyl-CoA (Mitochondrial Inner membrane)'	583.502829
'trans-Hex-2-enoyl-CoA(Mitochondrial Inner membrane)'	580.43911
'D-Glyceraldehyde 3-phosphate(cytosol)'	578.964078
'D-beta hydroxybutyrate(Mitochondrial Inner membrane)'	578.253426
'Hexanoyl-CoA(Mitochondrial Inner membrane)'	570.47702
'ADP(Mitochondrial Inner membrane)'	562.627942
'Failure of protein quality control(default)'	561
'Neuroinflammation(default)'	549
'3-trans-decenoyl-CoA(Mitochondrial Inner membrane)'	535.267361
'Acetoacetate(Mitochondrial Inner membrane)'	515.01382
'Butanoyl-CoA(Mitochondrial Inner membrane)'	501.030042
'Pyruvate (Mitochondrial Inner membrane)'	494.588029
'3-Oxohexanoyl-CoA(Mitochondrial Inner membrane)'	488.048047
'(S)-3-Hydroxybutanoyl-CoA(Mitochondrial Inner membrane)'	484.252049
'E2- E3-substrate complex(cytosol)'	483.690012
'Crotonoyl-CoA(Mitochondrial Inner membrane)'	478.262169
'E2(cytosol)'	461.807037
'K48 polyubiquitinated protein(cytosol)'	458.866989
'Complex_br_(ubiquitin/E1)(cytosol)'	455.969578
'UBA1(cytosol)'	446.080149
'Complex_br_(ubiquitin/E1)(cytosol)'	441.080149
'Acetoacetyl-CoA(Mitochondrial Inner membrane)'	432.696193
'CoA-SH(cytosol)'	427.645104
'CoA-SH (Mitochondrial Inner membrane)'	421.792786
'(S)-3-Hydroxy-3-methylglutaryl-CoA(Mitochondrial Inner membrane)'	411.527162
'AMP(cytosol)'	410.775171
'alpha-D-Glucose 6-phosphate(cytosol)'	400.41209
'Protein target(cytosol)'	395.940291
'membrane permeability(Mitochondrial Inner membrane)'	394.130022
'(S)-Hydroxyoctanoyl-CoA(Mitochondrial Inner membrane)'	358.735367
'3-Oxooctanoyl-CoA(Mitochondrial Inner membrane)'	357.607654
'Oxidative stress(Mitochondrial Inner membrane)'	356.808361
'CO2 (Mitochondrial Inner membrane)'	353.191347
'trans-Oct-2-enoyl-CoA(Mitochondrial Inner membrane)'	352.745474
'beta-D-Glucose 6-phosphate(cytosol)'	345.624237

'beta-D-Fructose 1-6-bisphosphate(cytosol)'	345.018996
'DAG(cytosol)'	344.504395
'L-Lactate (default)'	333.619618
'Pentose phosphate pathway(cytosol)'	320.24606
'beta-D-Fructose 6-phosphate(cytosol)'	316.623464
'H2O2(Mitochondrial outer membrane)'	316.468609
'Octanoyl-CoA(Mitochondrial Inner membrane)'	315.293562
'ubiquitin(cytosol)'	293.442555
'inclusion bodies(cytosol)'	283.990527
'K63-polyubiquitinated midfoded DJ-1(cytosol)'	281.990527
'NAD+(Mitochondrial Inner membrane)'	281.303748
'Glycerone phosphate(cytosol)'	278.009621
'CYCS(Nucleus)'	229.92538
'PPARGC1A(Nucleus)'	219.92538
'FADH2(Mitochondrial Inner membrane)'	213.759952
'CASP9(cytosol)'	213.161434
'DIABLO(cytosol)'	210.735066
'SMAC:XIAP:Caspase-9(cytosol)'	208.161434
'4-cis-decenoyl-CoA(Mitochondrial Inner membrane)'	207.985336
'PPARGC1A(Nucleus)'	204.92538
'DOPAL(cytosol)'	200.543316
'2-trans-4-cis-decadienoyl-CoA(Mitochondrial Inner membrane)'	198.062656
'BAK1(Mitochondrial outer membrane)'	191.533
'FAD(Mitochondrial Inner membrane)'	191.220948
'H2O(cytosol)'	189.968326
'CREB dependent_br_transcription(Nucleus)'	189.92538
'ATP-sensitive K+ channel(Mitochondrial Inner membrane)'	188.831564
'Dopamine(cytosol)'	183.125849
'ROS(default)'	173.191724
'O2-(Mitochondrial Inner membrane)'	164.335714
'O2(cytosol)'	159.914699
'ubiquinol(Mitochondrial Inner membrane)'	156.254372
'GSH(Mitochondrial Inner membrane)'	155.749363
'Fe(III)(cytosol)'	153.869437
'Ca2+(cytosol)'	150.837591
'O2-(cytosol)'	149.979512
'CREB:TORC1(Nucleus)'	149.331068
'(S)-3-Hydroxydodecanoyl-CoA(Mitochondrial Inner membrane)'	146.798387
'Lauroyl-CoA(Mitochondrial Inner membrane)'	144.662989
'H2O(Mitochondrial Inner membrane)'	143.615517
'Electron Leakage at Complex III(Mitochondrial Inner membrane)'	143.084429
'Decanoyl-CoA(Mitochondrial Inner membrane)'	138.197917
'2-trans-Dodecenoyl-CoA(Mitochondrial Inner membrane)'	135.971231
'NADPH(Mitochondrial Inner membrane)'	135.441022
'NADP+(Mitochondrial Inner membrane)'	135.024189
'GSSG(Mitochondrial Inner membrane)'	134.615983
'NAD+ (Mitochondrial Inner membrane)'	133.825054
'ROS(astrocyte)'	133.47327
'3-Oxotetradecanoyl-CoA(Mitochondrial Inner membrane)'	129.963061
'1-2-diacyl-glycerol 3-phosphate(cytosol)'	129.536073
'3-Oxododecanoyl-CoA(Mitochondrial Inner membrane)'	124.177559
'ubiquinone(Mitochondrial Inner membrane)'	120.733334

'Dopamine(default)'	118.676203
'MAPK10(cytosol)'	114.306134
'Acetyl-CoA(cytosol)'	113.418222
'Docked dopamine loaded synaptic vesicle(Docked DA loaded synaptic	113.416988
'1-acyl LPA(cytosol)'	108.845877
'MAP2K7(cytosol)'	108.72223
'OH•(Mitochondrial Inner membrane)'	105.679132
'Fe(II)(Mitochondrial Inner membrane)'	104.719917
'Fe(III)(Mitochondrial Inner membrane)'	104.237455
'permiable pore(cytosol)'	102.285518
'myristoyl-CoA(Mitochondrial Inner membrane)'	101.558091
'2-Oxoglutarate(Mitochondrial Inner membrane)'	99.643087
'(S)-3-Hydroxytetradecanoyl-CoA(Mitochondrial Inner membrane)'	99.176766
'HOO•(Mitochondrial Inner membrane)'	97.979277
'G3P(cytosol)'	96.776093
'trans-Tetradec-2-enoyl-CoA(Mitochondrial Inner membrane)'	93.187879
'E3(cytosol)'	92.83982
'mtDNA deletion(Mitochondrial Inner membrane)'	90.987045
'(S)-3-Hydroxyhexadecanoyl-CoA(Mitochondrial Inner membrane)'	88.673277
'3-Oxopalmitoyl-CoA(Mitochondrial Inner membrane)'	86.362159
'H+(default)'	82.60314
'CYCS(Mitochondrial Inner membrane)'	81.866934
'trans-Hexadec-2-enoyl-CoA(Mitochondrial Inner membrane)'	81.720734
'palmitoyl-CoA(Mitochondrial Inner membrane)'	81.462092
'OH•(cytosol)'	78.784714
'(R)-2-hydroxyglutarate(Mitochondrial Inner membrane)'	77.185455
'4-hydroxybutyrate(Mitochondrial Inner membrane)'	76.050252
'pyruvate dehydrogenase complex(Mitochondrial Inner membrane)'	73.480949
'CRTC1(Nucleus)'	71.521322
'CREB1(Nucleus)'	71.241935
'H2O (Mitochondrial Inner membrane)'	70.442454
'alpha-D-Glucose(cytosol)'	68.210114
'beta-D-Glucose(cytosol)'	66.964743
'succinate semialdehyde(Mitochondrial Inner membrane)'	66.419155
'BAK1(Mitochondrial outer membrane)'	64.447708
'misfolded SNCA(cytosol)'	62.709639
'3-hydroxyoctadecanoyl-CoA(cytosol)'	62.420217
'tBID:BAK(Mitochondrial outer membrane)'	59.447708
'CYCS(Mitochondrial Inner membrane)'	57.135675
'Autophagosome(cytosol)'	56.732274
'tBID(Mitochondrial outer membrane)'	54.447708
'trans-cis-Lauro-2-6-dienoyl-CoA (Mitochondrial Inner membrane)'	54.019781
'TAK1(cytosol)'	53.243311
'AMPA receptors containing GluR2 (homomers)(cytosol)'	50.693215
'NMDA receptor complex(cytosol)'	50.342409
'cis-cis-3-6-Dodecadienoyl-CoA(Mitochondrial Inner membrane)'	48.945914
'Palmitate(cytosol)'	48.757369
'ASK1 signalsome(cytosol)'	47.494929
'TXN(Mitochondrial Inner membrane)'	43.333077
'ASK1 signalsome(cytosol)'	42.494929
'Fe(II)(cytosol)'	42.412589
'HOO•(cytosol)'	41.339743

'TXN(cytosol)'	40.846675
'NMDA receptor complex(cytosol)'	40.375534
'AMPA receptor ligand complex(cytosol)'	40.14267
'3-oxooctadecanoyl-CoA(cytosol)'	40.072359
'phosphohrylated pyruvate dehydrogenase complex(Mitochondrial Inr	39.371386
'L-Dopa(cytosol)'	39.189371
'tBID(cytosol)'	35.964865
'Malonyl-CoA(cytosol)'	35.000669
'TXN(Mitochondrial Inner membrane)'	34.938239
'MAPK1(cytosol)'	34.810548
'Raf/Mek(cytosol)'	34.480413
'membrane depolarlization(cytosol)'	30.375534
'Autolysosome(cytosol)'	30.270905
'GSH(cytosol)'	30.209916
'Isolation membrane (IM)(cytosol)'	29.820138
'MAPK1(cytosol)'	29.810548
'Ras:GTP(cytosol)'	29.480413
'TNFR(cytosol)'	28.243311
'LC3:VDAC1:HDAC6:p62(cytosol)'	26.561526
'TXN(cytosol)'	25.771981
'Na+(cytosol)'	25.375534
'TNF(default)'	23.243311
'VDAC1:HDAC6:p62(cytosol)'	22.561526
'Calmodulin(cytosol)'	22.545593
'MAP3K5(cytosol)'	22.494929
'GSSG(cytosol)'	20.135222
'CREB1(Nucleus)'	20
'RasGRF(cytosol)'	19.480413
'Tyrosine 3-monooxygenase (Fe2+ cofactor)(cytosol)'	19.001996
'SNCA (fibril)(cytosol)'	18.623327
'tBID:BAX(cytosol)'	17.860321
'Calmodulin:CaMK IV(Nucleus)'	17.56766
'CASP7(cytosol)'	17.47401
'BAX(cytosol)'	16.629396
'UBL-acyl adenylate intermediate(cytosol)'	16.584384
'VDAC1(Mitochondrial outer membrane)'	16.561526
'SLC25A14(Mitochondrial Inner membrane)'	16.544944
'SLC25A27(Mitochondrial Inner membrane)'	16.544944
'mTOR complex 1 (mTORC1)(cytosol)'	15.760625
'CASP3(cytosol)'	15.099662
'IL-1R(cytosol)'	15
'Jacob:importin alpha(Nucleus)'	15
'Microgria activation(microglia)'	14.993377
'Dopamine loaded synaptic vesicle(DA loaded synaptic vesicle)'	14.992979
'AMPK(cytosol)'	14.8
'PINK1:PARK2(Mitochondrial outer membrane)'	14.536359
'VAMP2(cytosol)'	14.191021
'BAX(Mitochondrial outer membrane)'	14.013162
'CREB:TORC2(Nucleus)'	13.428039
'Electron Leakage at Complex I(Mitochondrial Inner membrane)'	13.263528
'TSC2(cytosol)'	12.760625
'Calmodulin:CaMK IV(cytosol)'	12.56766

'SMAC:XIAP:Caspase-7(cytosol)'	12.47401
'CREB:CBP(Nucleus)'	12.166269
'Mitochondria Fission(Mitochondrial Inner membrane)'	10.494546
'Autophagy induction(cytosol)'	10.245552
'O2-(Mitochondrial outer membrane)'	10.125172
'classic PI3K complex(cytosol)'	10.104662
'SMAC:XIAP:Caspase-3(cytosol)'	10.099662
'Caspase-2(cytosol)'	10
'Ca2+(Mitochondrial Inner membrane)'	10
'PAK2(cytosol)'	10
'IL1B(default)'	10
'L-Palmitoylcarnitine(Mitochondrial Inner membrane)'	10
'Jacob:importin alpha(cytosol)'	10
'alpha cynuclein(microglia)'	9.993377
'Acetate(Mitochondrial Inner membrane)'	9.728608
'Protein target(cytosol)'	8.082294
'PINK1(Mitochondrial outer membrane)'	8.080272
'ROS(microglia)'	7.799173
'Mitochondria Fusion(Mitochondrial Inner membrane)'	7.494546
'CRTC2(cytosol)'	6.711939
'ATG1 kinase complex(cytosol)'	6.245552
'CREBBP(Nucleus)'	5.450164
'26S hybrid proteasome(cytosol)'	5.134525
'ACADL(Mitochondrial Inner membrane)'	5.107809
'HMGCS2(Mitochondrial Inner membrane)'	5.063033
'NADH-Q oxireductase (complex I)(Mitochondrial Inner membrane)'	5.047151
'isocitrate dehydrogenase(Mitochondrial Inner membrane)'	5.037849
'SOD2(Mitochondrial Inner membrane)'	5.037849
'GLUD1(Mitochondrial Inner membrane)'	5.037849
'L-Palmitoylcarnitine(Mitochondrial outer membrane)'	4.912657
'D-Glucose 1-phosphate(cytosol)'	4.905563
'tBID:BCL-2(Mitochondrial outer membrane)'	4.807923
'PPP2CA(cytosol)'	4.756626
'mtDNA mutations(Mitochondrial Inner membrane)'	4.734773
'Acetaldehyde(Mitochondrial Inner membrane)'	4.643427
'E2(cytosol)'	4.447495
'MAPK8(cytosol)'	4.224055
'SNARE complex(cytosol)'	4.191021
'CaMKII:Calmodulin:Ca2(cytosol)'	4.124441
'PINK1(Mitochondrial outer membrane)'	4
'BECN1(cytosol)'	3.184934
'palmitoyl-CoA(cytosol)'	3.040021
'DNM1L(Mitochondrial outer membrane)'	3
'DNM1L(Mitochondrial outer membrane)'	3
'?-synuclein aggregation(cytosol)'	2.5
'MAPK9(cytosol)'	2.208049
'MAP2K4(cytosol)'	2.016009
'Lysosome biogenesis(cytosol)'	2
'Misfolded protein propagation(default)'	2
'O2(Mitochondrial Inner membrane)'	1.799675
'arachidonoyl-CoA(cytosol)'	1.464152
'DNM1L(cytosol)'	1

'Rab3:RIM(cytosol)'	0.160848
'Electron Leakage at Complex III(Mitochondrial outer membrane)'	0.155709
'Synapsin(cytosol)'	0.090651
'CPLX1(cytosol)'	0.090651
'SYT1(cytosol)'	0.090651
'SLC18A2(cytosol)'	0.090651