

Degrading characterization of newly isolated *Nocardioides* sp. N39 for 3-amino-5-methyl-isoxazole and its genomic information

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Table S1. The genes in N39 distinct to N40

Length	Gene ID in N39	Annotated function	Corresponding gene ID in N40	Percent identity
262	fig 2045.14.peg.103	hypothetical protein		0
60	fig 2045.14.peg.710	hypothetical protein		0
360	fig 2045.14.peg.714	hypothetical protein		0
53	fig 2045.14.peg.859	hypothetical protein		0
118	fig 2045.14.peg.1134	hypothetical protein		0
38	fig 2045.14.peg.1169	Mobile element protein		0
349	fig 2045.14.peg.1213	hypothetical protein		0
437	fig 2045.14.peg.1214	hypothetical protein		0
456	fig 2045.14.peg.1294	hypothetical protein		0
63	fig 2045.14.peg.1491	hypothetical protein		0
41	fig 2045.14.peg.2090	hypothetical protein		0
102	fig 2045.14.peg.2096	hypothetical protein		0
159	fig 2045.14.peg.2208	hypothetical protein		0
415	fig 2045.14.peg.2485	Mobile element protein		0
415	fig 2045.14.peg.2489	Mobile element protein		0
44	fig 2045.14.peg.2528	hypothetical protein		0
101	fig 2045.14.peg.2637	hypothetical protein		0
415	fig 2045.14.peg.2712	Mobile element protein		0
415	fig 2045.14.peg.2752	Mobile element protein		0
74	fig 2045.14.peg.2765	hypothetical protein		0
415	fig 2045.14.peg.2779	Mobile element protein		0
415	fig 2045.14.peg.2782	Mobile element protein		0
415	fig 2045.14.peg.2791	Mobile element protein		0
48	fig 2045.14.peg.2797	hypothetical protein		0
58	fig 2045.14.peg.2799	hypothetical protein		0
51	fig 2045.14.peg.2805	hypothetical protein		0
78	fig 2045.14.peg.2814	hypothetical protein		0
81	fig 2045.14.peg.2815	hypothetical protein		0
71	fig 2045.14.peg.2816	hypothetical protein		0
45	fig 2045.14.peg.2817	hypothetical protein		0
91	fig 2045.14.peg.2948	hypothetical protein		0
94	fig 2045.14.peg.2949	hypothetical protein		0
133	fig 2045.14.peg.3003	hypothetical protein		0
50	fig 2045.14.peg.3421	hypothetical protein		0
415	fig 2045.14.peg.3735	Mobile element protein		0
413	fig 2045.14.peg.3745	Mobile element protein		0
207	fig 2045.14.peg.3771	hypothetical protein		0
57	fig 2045.14.peg.3772	hypothetical protein		0
52	fig 2045.14.peg.4357	hypothetical protein		0

415	fig 2045.14.peg.4506	Mobile element protein		0
413	fig 2045.14.peg.4516	Mobile element protein		0
413	fig 2045.14.peg.4532	Mobile element protein		0
290	fig 2045.14.peg.4623	integrase catalytic subunit		0
415	fig 2045.14.peg.4657	Mobile element protein		0
415	fig 2045.14.peg.4669	Mobile element protein		0
415	fig 2045.14.peg.4679	Mobile element protein		0
413	fig 2045.14.peg.4703	Mobile element protein		0
303	fig 2045.14.peg.4731	Mobile element protein		0
173	fig 2045.14.peg.4744	hypothetical protein		0
103	fig 2045.14.peg.4758	hypothetical protein		0
303	fig 2045.14.peg.4762	Mobile element protein		0
42	fig 2045.14.peg.4776	hypothetical protein		0
290	fig 2045.14.peg.4783	integrase catalytic subunit		0
348	fig 2045.14.peg.4785	hypothetical protein		0
290	fig 2045.14.peg.4794	integrase catalytic subunit		0
290	fig 2045.14.peg.4919	integrase catalytic subunit		0
48	fig 2045.14.peg.5055	hypothetical protein		0
47	fig 2045.14.peg.5348	hypothetical protein		0
77	fig 2045.14.peg.5627	hypothetical protein		0
40	fig 2045.14.peg.5831	hypothetical protein		0
372	fig 2045.14.peg.73	hypothetical protein	fig 2045.18.peg.3996	99.46
41	fig 2045.14.peg.173	hypothetical protein	fig 2045.18.peg.4096	97.5
		Osmosensitive K ⁺ channel		
637	fig 2045.14.peg.398	histidine kinase KdpD (EC 2.7.3.-)	fig 2045.18.peg.4322	99.74
616	fig 2045.14.peg.445	Mlr6999 protein	fig 2045.18.peg.4369	99.84
262	fig 2045.14.peg.572	hypothetical protein	fig 2045.18.peg.4497	99.61
45	fig 2045.14.peg.706	hypothetical protein	fig 2045.18.peg.4633	97.73
350	fig 2045.14.peg.708	hypothetical protein	fig 2045.18.peg.4635	99.71
621	fig 2045.14.peg.784	hypothetical protein	fig 2045.18.peg.4709	99.81
279	fig 2045.14.peg.867	hypothetical protein	fig 2045.18.peg.4791	99.64
50	fig 2045.14.peg.934	hypothetical protein	fig 2045.18.peg.4858	97.96
1013	fig 2045.14.peg.1073	hypothetical protein	fig 2045.18.peg.4998	99.9
144	fig 2045.14.peg.1192	hypothetical protein	fig 2045.18.peg.5119	99.3
225	fig 2045.14.peg.1409	hypothetical protein	fig 2045.18.peg.5336	99.49
197	fig 2045.14.peg.1651	hypothetical protein	fig 2045.18.peg.5578	99.35
384	fig 2045.14.peg.1858	hypothetical protein	fig 2045.18.peg.5785	99.74
308	fig 2045.14.peg.1889	hypothetical protein	fig 2045.18.peg.5816	99.5
252	fig 2045.14.peg.1955	hypothetical protein	fig 2045.18.peg.5882	99.6
318	fig 2045.14.peg.2040	Transcriptional regulator, LysR family	fig 2045.18.peg.5967	99.66
155	fig 2045.14.peg.2054	hypothetical protein	fig 2045.18.peg.5981	99.35

587	fig 2045.14.peg.2073	hypothetical protein	fig 2045.18.peg.6000	99.83
215	fig 2045.14.peg.2117	hypothetical protein	fig 2045.18.peg.6043	99.27
83	fig 2045.14.peg.2212	hypothetical protein	fig 2045.18.peg.6139	98.51
333	fig 2045.14.peg.2354	Glycine oxidase ThiO (EC 1.4.3.19)	fig 2045.18.peg.278	99.39
40	fig 2045.14.peg.2488	hypothetical protein	fig 2045.18.peg.412	97.44
226	fig 2045.14.peg.2492	hypothetical protein	fig 2045.18.peg.416	98.75
153	fig 2045.14.peg.2522	hypothetical protein	fig 2045.18.peg.447	98.73
782	fig 2045.14.peg.2523	ATP-dependent DNA helicase UvrD/PcrA (EC 3.6.4.12)	fig 2045.18.peg.448	99.87
333	fig 2045.14.peg.2588	hypothetical protein	fig 2045.18.peg.512	99.69
526	fig 2045.14.peg.2597	Cys-tRNA(Pro) deacylase YbaK	fig 2045.18.peg.521	99.8
205	fig 2045.14.peg.2666	hypothetical protein	fig 2045.18.peg.592	99.41
216	fig 2045.14.peg.2750	hypothetical protein	fig 2045.18.peg.677	99.49
189	fig 2045.14.peg.2766	integrase family protein	fig 2045.18.peg.694	99.46
151	fig 2045.14.peg.2871	hypothetical protein	fig 2045.18.peg.793	99.33
412	fig 2045.14.peg.2993	hypothetical protein	fig 2045.18.peg.915	99.68
467	fig 2045.14.peg.3001	hypothetical protein	fig 2045.18.peg.923	99.79
301	fig 2045.14.peg.3002	hypothetical protein	fig 2045.18.peg.924	99.67
351	fig 2045.14.peg.3004	ABC transporter, permease protein (cluster 8, B12/iron complex)	fig 2045.18.peg.925	99.71
538	fig 2045.14.peg.3286	P-loop GTPase domain-containing protein Sros_8871	fig 2045.18.peg.1208	97.17
463	fig 2045.14.peg.3297	hypothetical protein	fig 2045.18.peg.1219	99.7
160	fig 2045.14.peg.3420	hypothetical protein	fig 2045.18.peg.1343	99.37
59	fig 2045.14.peg.3516	hypothetical protein	fig 2045.18.peg.1439	97.92
400	fig 2045.14.peg.3590	Cell division protein FtsZ	fig 2045.18.peg.1513	99.25
865	fig 2045.14.peg.3744	hypothetical protein	fig 2045.18.peg.1667	99.88
167	fig 2045.14.peg.4017	hypothetical protein	fig 2045.18.peg.1938	99.4
868	fig 2045.14.peg.4107	Acetoacetyl-CoA synthetase (EC 6.2.1.16)	fig 2045.18.peg.2028	99.88
452	fig 2045.14.peg.4282	16S rRNA (cytosine(967)-C(5))-methyltransferase (EC 2.1.1.176)	fig 2045.18.peg.2203	98.9
1137	fig 2045.14.peg.4416	hypothetical protein	fig 2045.18.peg.2338	98.42
201	fig 2045.14.peg.4489	Phage tail fiber protein	fig 2045.18.peg.2412	99.5
70	fig 2045.14.peg.4553	hypothetical protein	fig 2045.18.peg.2477	98.55
818	fig 2045.14.peg.4589	DNA translocase FtsK	fig 2045.18.peg.2513	99.87

43	fig 2045.14.peg.4617	hypothetical protein	fig 2045.18.peg.27	89.29
56	fig 2045.14.peg.4625	hypothetical protein	fig 2045.18.peg.2550	98.18
1984	fig 2045.14.peg.4659	Relaxase TrwC / Conjugal transfer protein TraA / DNA primase (EC 2.7.7.-), conjugative	fig 2045.18.peg.2584	99.09
95	fig 2045.14.peg.4764	ATP/GTP-binding protein	fig 2045.18.peg.2688	98.94
235	fig 2045.14.peg.4799	Integral membrane protein	fig 2045.18.peg.2723	99.57
1063	fig 2045.14.peg.5043	Putative large secreted protein SCO0341	fig 2045.18.peg.2968	99.9
476	fig 2045.14.peg.5150	Molybdopterin-binding oxidoreductase, [4Fe-4S] cluster binding and molybdopterin cofactor binding site containing	fig 2045.18.peg.3075	99.79
409	fig 2045.14.peg.5360	FIG01111984: hypothetical protein	fig 2045.18.peg.3285	95.83
293	fig 2045.14.peg.5432	hypothetical protein	fig 2045.18.peg.3357	99.66
283	fig 2045.14.peg.5463	hypothetical protein	fig 2045.18.peg.3388	99.29
185	fig 2045.14.peg.5464	hypothetical protein	fig 2045.18.peg.3389	98.48
114	fig 2045.14.peg.5510	hypothetical protein	fig 2045.18.peg.3437	98.63
126	fig 2045.14.peg.5625	FIG01121360: hypothetical protein	fig 2045.18.peg.3553	98.97
955	fig 2045.14.peg.5629	Glycosyl transferase, family 2	fig 2045.18.peg.3557	99.9
294	fig 2045.14.peg.5650	Transcriptional regulator, LysR family	fig 2045.18.peg.3578	99.66
407	fig 2045.14.peg.5652	Cell envelope-associated transcriptional attenuator LytR-CpsA-Psr, subfamily A1	fig 2045.18.peg.3580	99.67
306	fig 2045.14.peg.506	Beta-glucanase precursor (EC 3.2.1.73)	fig 2045.18.peg.343	56.03
289	fig 2045.14.peg.709	hypothetical protein	fig 2045.18.peg.4636	99.65

Table S2. The genomic SNP/indel analysis between strain N39 and N40

Location of SNP/indel site in N39	The base in N39	The base in N40	Location of SNP/indel site in N40	Contig of SNP/indel site in N39	Contig of SNP/indel site in N40
61194	G	T	3824609	N39-chromosome	N40-chromosome
72818	A	T	3836233	N39-chromosome	N40-chromosome
72821	A	C	3836236	N39-chromosome	N40-chromosome
101455	G	.	3864869	N39-chromosome	N40-chromosome
101457	G	C	3864871	N39-chromosome	N40-chromosome
101458	G	T	3864872	N39-chromosome	N40-chromosome
101464	C	G	3864878	N39-chromosome	N40-chromosome
101466	C	A	3864880	N39-chromosome	N40-chromosome
101470	G	C	3864884	N39-chromosome	N40-chromosome
101474	G	.	3864887	N39-chromosome	N40-chromosome
101475	C	.	3864887	N39-chromosome	N40-chromosome
101476	C	.	3864887	N39-chromosome	N40-chromosome
101479	C	A	3864890	N39-chromosome	N40-chromosome
343931	C	.	4107341	N39-chromosome	N40-chromosome
343932	C	T	4107342	N39-chromosome	N40-chromosome
407251	G	.	4170660	N39-chromosome	N40-chromosome
466189	G	.	4229597	N39-chromosome	N40-chromosome
689383	G	.	4452790	N39-chromosome	N40-chromosome
748087	.	G	4511495	N39-chromosome	N40-chromosome
748281	.	G	4511690	N39-chromosome	N40-chromosome
751397	.	C	4514807	N39-chromosome	N40-chromosome
751397	.	G	4514808	N39-chromosome	N40-chromosome
876999	G	A	4640410	N39-chromosome	N40-chromosome
985655	C	G	4749066	N39-chromosome	N40-chromosome
1290993	A	C	5054404	N39-chromosome	N40-chromosome
1449191	G	.	5212629	N39-chromosome	N40-chromosome
1919982	A	G	5683420	N39-chromosome	N40-chromosome
2189763	.	T	5951759	N39-chromosome	N40-chromosome
2264647	.	G	6026644	N39-chromosome	N40-chromosome
2264647	.	C	6026645	N39-chromosome	N40-chromosome
2264647	.	C	6026646	N39-chromosome	N40-chromosome
2264647	.	C	6026647	N39-chromosome	N40-chromosome
2264647	.	C	6026648	N39-chromosome	N40-chromosome
2264647	.	C	6026649	N39-chromosome	N40-chromosome
2264647	.	C	6026650	N39-chromosome	N40-chromosome
2264647	.	C	6026651	N39-chromosome	N40-chromosome
2264647	.	C	6026652	N39-chromosome	N40-chromosome
2264647	.	C	6026653	N39-chromosome	N40-chromosome

2264647	.	C	6026654	N39-chromosome	N40-chromosome
2264647	.	C	6026655	N39-chromosome	N40-chromosome
2264647	.	C	6026656	N39-chromosome	N40-chromosome
2264647	.	C	6026657	N39-chromosome	N40-chromosome
2264647	.	C	6026658	N39-chromosome	N40-chromosome
2264647	.	C	6026659	N39-chromosome	N40-chromosome
2264647	.	G	6026660	N39-chromosome	N40-chromosome
2264647	.	G	6026661	N39-chromosome	N40-chromosome
2264655	T	G	6026669	N39-chromosome	N40-chromosome
2264656	C	G	6026670	N39-chromosome	N40-chromosome
2264658	T	G	6026672	N39-chromosome	N40-chromosome
2264659	.	G	6026674	N39-chromosome	N40-chromosome
2264659	.	G	6026675	N39-chromosome	N40-chromosome
2264659	.	G	6026676	N39-chromosome	N40-chromosome
2264659	.	G	6026677	N39-chromosome	N40-chromosome
2264659	.	G	6026678	N39-chromosome	N40-chromosome
2264659	.	C	6026679	N39-chromosome	N40-chromosome
2264659	.	C	6026680	N39-chromosome	N40-chromosome
2264659	.	C	6026681	N39-chromosome	N40-chromosome
2264659	.	C	6026682	N39-chromosome	N40-chromosome
2264659	.	C	6026683	N39-chromosome	N40-chromosome
2264661	G	C	6026685	N39-chromosome	N40-chromosome
2264662	A	C	6026686	N39-chromosome	N40-chromosome
2414870	C	.	85899	N39-chromosome	N40-chromosome
2414871	A	.	85899	N39-chromosome	N40-chromosome
2778514	G	.	449541	N39-chromosome	N40-chromosome
3078737	.	C	748330	N39-chromosome	N40-chromosome
3078737	.	C	748331	N39-chromosome	N40-chromosome
3090687	.	G	760282	N39-chromosome	N40-chromosome
3091745	G	.	761339	N39-chromosome	N40-chromosome
3091746	A	.	761339	N39-chromosome	N40-chromosome
3091762	C	G	761355	N39-chromosome	N40-chromosome
3091834	.	C	761428	N39-chromosome	N40-chromosome
3227568	C	.	897161	N39-chromosome	N40-chromosome
3399408	C	.	1069000	N39-chromosome	N40-chromosome
3399409	G	.	1069000	N39-chromosome	N40-chromosome
3411751	G	.	1081341	N39-chromosome	N40-chromosome
3437540	G	T	1107130	N39-chromosome	N40-chromosome
3459593	G	.	1129182	N39-chromosome	N40-chromosome
3561499	G	.	1231087	N39-chromosome	N40-chromosome
3697655	A	.	1367242	N39-chromosome	N40-chromosome
3697660	.	G	1367248	N39-chromosome	N40-chromosome
4014681	G	A	1684269	N39-chromosome	N40-chromosome

4105367	A	C	1773829	N39-chromosome	N40-chromosome
4393721	G	C	2062183	N39-chromosome	N40-chromosome
4393723	.	C	2062186	N39-chromosome	N40-chromosome
4393723	.	C	2062187	N39-chromosome	N40-chromosome
4393723	.	C	2062188	N39-chromosome	N40-chromosome
4393723	.	C	2062189	N39-chromosome	N40-chromosome
4393723	.	C	2062190	N39-chromosome	N40-chromosome
4393723	.	C	2062191	N39-chromosome	N40-chromosome
4393723	.	C	2062192	N39-chromosome	N40-chromosome
4393723	.	C	2062193	N39-chromosome	N40-chromosome
4393723	.	C	2062194	N39-chromosome	N40-chromosome
4393723	.	C	2062195	N39-chromosome	N40-chromosome
4393723	.	C	2062196	N39-chromosome	N40-chromosome
4393723	.	C	2062197	N39-chromosome	N40-chromosome
4393723	.	C	2062198	N39-chromosome	N40-chromosome
4393723	.	T	2062199	N39-chromosome	N40-chromosome
4393726	G	T	2062202	N39-chromosome	N40-chromosome
4393728	C	A	2062204	N39-chromosome	N40-chromosome
4393729	G	A	2062205	N39-chromosome	N40-chromosome
4393732	G	A	2062208	N39-chromosome	N40-chromosome
4393733	.	A	2062210	N39-chromosome	N40-chromosome
4393733	.	A	2062211	N39-chromosome	N40-chromosome
4393737	C	G	2062215	N39-chromosome	N40-chromosome
4393738	.	C	2062217	N39-chromosome	N40-chromosome
4393738	.	A	2062218	N39-chromosome	N40-chromosome
4393738	.	T	2062219	N39-chromosome	N40-chromosome
4393738	.	A	2062220	N39-chromosome	N40-chromosome
4393738	.	C	2062221	N39-chromosome	N40-chromosome
4393740	.	G	2062224	N39-chromosome	N40-chromosome
4393740	.	A	2062225	N39-chromosome	N40-chromosome
4393740	.	T	2062226	N39-chromosome	N40-chromosome
4393740	.	T	2062227	N39-chromosome	N40-chromosome
4393740	.	A	2062228	N39-chromosome	N40-chromosome
4393740	.	G	2062229	N39-chromosome	N40-chromosome
4393746	.	T	2062236	N39-chromosome	N40-chromosome
4393747	.	A	2062238	N39-chromosome	N40-chromosome
4393747	.	C	2062239	N39-chromosome	N40-chromosome
4393749	C	G	2062241	N39-chromosome	N40-chromosome
4393752	.	T	2062245	N39-chromosome	N40-chromosome
4393753	C	T	2062246	N39-chromosome	N40-chromosome
4393757	.	C	2062251	N39-chromosome	N40-chromosome
4393757	.	G	2062252	N39-chromosome	N40-chromosome
4393757	.	T	2062253	N39-chromosome	N40-chromosome

4393757	.	G	2062254	N39-chromosome	N40-chromosome
4393757	.	T	2062255	N39-chromosome	N40-chromosome
4393760	.	C	2062259	N39-chromosome	N40-chromosome
4393760	.	T	2062260	N39-chromosome	N40-chromosome
4393760	.	T	2062261	N39-chromosome	N40-chromosome
4393760	.	C	2062262	N39-chromosome	N40-chromosome
4393762	.	A	2062265	N39-chromosome	N40-chromosome
4393762	.	T	2062266	N39-chromosome	N40-chromosome
4393762	.	C	2062267	N39-chromosome	N40-chromosome
4393763	.	G	2062269	N39-chromosome	N40-chromosome
4393763	.	G	2062270	N39-chromosome	N40-chromosome
4393763	.	C	2062271	N39-chromosome	N40-chromosome
4393775	A	C	2062283	N39-chromosome	N40-chromosome
4705674	.	C	2375559	N39-chromosome	N40-chromosome
4707326	.	G	2377212	N39-chromosome	N40-chromosome
4734300	G	C	2404186	N39-chromosome	N40-chromosome
4734312	C	G	2404198	N39-chromosome	N40-chromosome
4734317	A	G	2404203	N39-chromosome	N40-chromosome
4734351	C	G	2404237	N39-chromosome	N40-chromosome
4734384	C	A	2404270	N39-chromosome	N40-chromosome
4734393	C	G	2404279	N39-chromosome	N40-chromosome
4734426	C	G	2404312	N39-chromosome	N40-chromosome
4734438	C	T	2404324	N39-chromosome	N40-chromosome
4734462	C	G	2404348	N39-chromosome	N40-chromosome
4734477	C	G	2404363	N39-chromosome	N40-chromosome
4734594	T	G	2404480	N39-chromosome	N40-chromosome
4734699	C	.	2404584	N39-chromosome	N40-chromosome
4734701	.	T	2404587	N39-chromosome	N40-chromosome
4734866	A	G	2404752	N39-chromosome	N40-chromosome
4734897	G	T	2404783	N39-chromosome	N40-chromosome
4734987	A	C	2404873	N39-chromosome	N40-chromosome
4735014	C	A	2404900	N39-chromosome	N40-chromosome
4735015	C	G	2404901	N39-chromosome	N40-chromosome
4735017	C	T	2404903	N39-chromosome	N40-chromosome
4735034	A	T	2404920	N39-chromosome	N40-chromosome
4735056	A	C	2404942	N39-chromosome	N40-chromosome
4735069	A	C	2404955	N39-chromosome	N40-chromosome
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4736478	C	G	2406364	N39-chromosome	N40-chromosome
4736499	C	G	2406385	N39-chromosome	N40-chromosome
4736556	C	G	2406442	N39-chromosome	N40-chromosome
4736559	C	G	2406445	N39-chromosome	N40-chromosome
4736586	C	G	2406472	N39-chromosome	N40-chromosome
4736589	C	A	2406475	N39-chromosome	N40-chromosome
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4736661	C	T	2406547	N39-chromosome	N40-chromosome
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4736730	G	C	2406616	N39-chromosome	N40-chromosome
4736739	A	C	2406625	N39-chromosome	N40-chromosome
4736742	G	C	2406628	N39-chromosome	N40-chromosome
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5741184	C	A	3412104	N39-chromosome	N40-chromosome
5764887	T	G	3435807	N39-chromosome	N40-chromosome
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[illegible]

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5843024	.	G	3514012	N39-chromosome	N40-chromosome
5843026	.	G	3514015	N39-chromosome	N40-chromosome
5843026	.	T	3514016	N39-chromosome	N40-chromosome
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Note: the point in the table represents a base deletion.

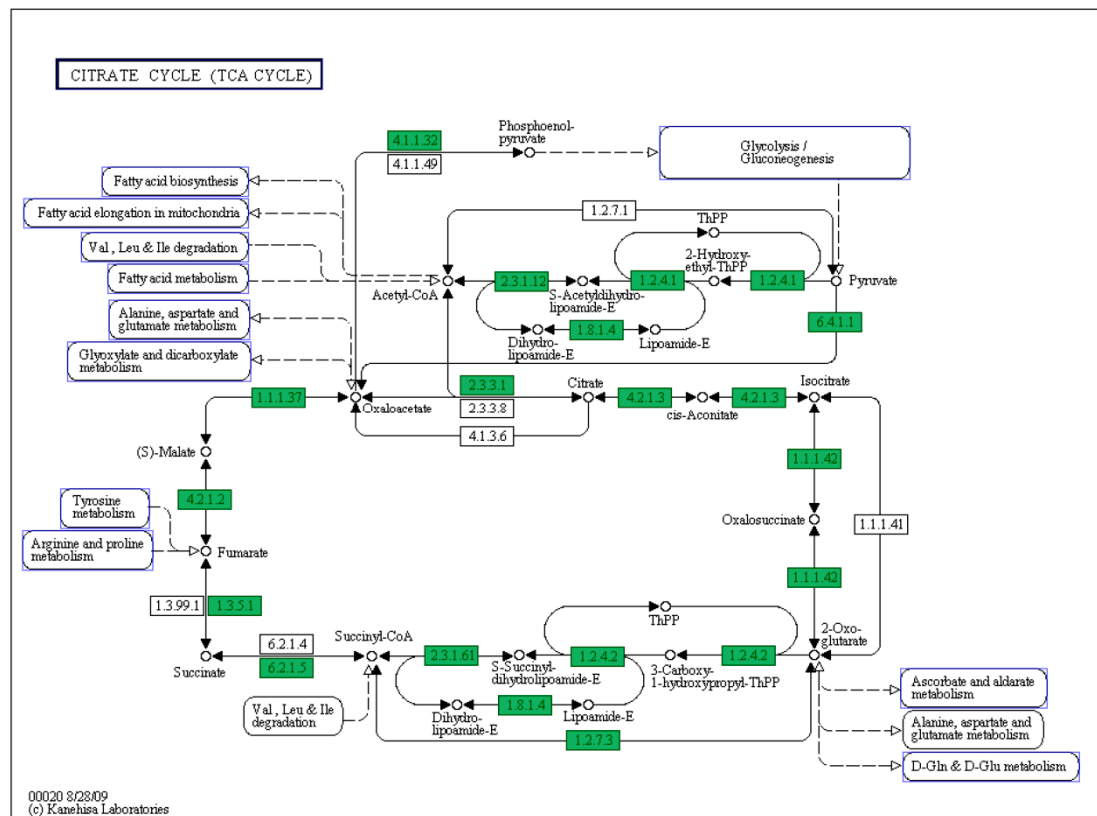


Figure S2 The metabolic pathway of citrate cycle in N39 obtained from KEGG database. Green box represents the enzyme annotated in genome of N39.