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Lampiran 1 (Tabel Hail Aligment 15 Sekuen)

Hasil Pensejajaran (Aligment) Sekuen

>KF664389.1 Anacardium occidentale

GGTTCCGGCGAACGAATAATCATTGAGTCCTCCTCTTTCCGGACAACACATACAAAGAAACCCGCCAACTGTC
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GTTTCTTTTATTAGTTTTAATAAAATCAAAATACATTCTCTACCATATACGTGTATCGGTTATCCCTACGAAATA
CCAGACGAAATAGAACGATCTTAGAAAAAATATAATGAAATTCTTTGATTGGTTGTTCCCAGAGAAATGATCC
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AAGAAATAAATAAACAGAGAGTTCTTATTCGAAACGCCCCGTGATCTTCAACCAATTATGCGC---
>Mangifera sp
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TATCATTTAGAGGAAGGAGAAGT-
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CGACCCGTGAACCTGTTCTTAACGTCGG---GGACGCGCGGGCCTTGTGCCTGCGCGCCC-TCGCCCG-----
TACCGC--GTTCGGCT-TTCGGTGCGCGTGCACCCCTGCGTGTGCGTGCCC-GTTTTCCCCTCGC-
GGTGCCTTAACCAACCCCGGCGCGAATTGCGCCAAGGACTTGTTAACAA----------GAG--CTCGCTCCCGTC-
CCCCCGGACACGGTGCGTGCGTTCGGGACGTGATGCCTCCTTTCATTATCTATAAC-
ACTCTCGGCAACGGATATCTCGGCTCTCGCATC-ATGAA-AACGTA-CGA-AATGC-ATACTTGGTGTGAATTGCA-

AATCCCGTGAACCATC-AGTCTTTGAACGCAAGTTGCGCCCCAAGCCCCTTAGGGCCGGGCACGTCTGCCTG--
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GGGCGGAAATTGGCCTCCCGTGCGCTCGCCCGT-GCGGTTGGCCCAAAT-TGAGTTCTC----------
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>MF444901.1 Mangifera odorata

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CGTCGC--GTTGGGCT-TTCGTTGCGCGTGCACCCCTGCGTGTGCGTGCCC-GTTCGCCCCTCGC-
GGTGCCTTAACCAACCCCGGCGCGAATTGCGCCAAGGACTTGTTAACGA----------
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>MF444900.1 Mangifera camptosperma

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CGCCGC--GTCGGGCT-TTCGTTGTGCGTGCACCCCTGCGTGTGCGTGCCC-GTTCGTCCCTCGC-
GGTGCCTTAACCAACCCCGGCGCGAATTGCGCCAAGGACTTGTTAACGA----------
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>AB071680.1 Mangifera foetida

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GGTGCCTTAACCAACCCCGGCGCGAATTGCGCCAAGGACTTGTTAACGA----------
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GACTCTCGGCAACGGATATCTCGGCTCTCGCATCGATGAAGAACGTAGCGA-
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CGTGCGCTCGCCCGT-
GCGGTTGGCCCAAATCTGAGTTCTCGGTGACGCTTTCCCGCGACAATCGGTGGCGTTTGAAAGACAACCTAGTG
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>KJ833761.1 Mangifera indica

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GAAAGAATAGTTAAATT-
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GCGTGTGCGTGCCCGTTCGCCCCTCACGGT-----
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>AB071681.1 Mangifera gedebe

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CGTGCGCTCGCCCGT-
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>MF678503.1 Mangifera kemanga

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TTCGGTGCGCGTGCACCCCTGCGTGTGCGTGCCC-GTTTTCCCCTCGC-
GGTGCCTTAACCAACCCCGGCGCGAATTGCGCCAAGGACTTGTTAACGA----------
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GACTCTCGGCAACGGATATCTCGGCTCTCGCATCGATGAAGAACGTAGCGA-
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CGTGCGCTCGCCCGT-
GCGGTTGGCCCAAATCTGAATTCTCGGTGACGCTTTTCCGCGACAATCGGTGGCGTTTGAAAAACAACCTAATG
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>AJ890470.1 Mangifera sylvatica

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TTCGTTGCGCGTGCACCCCTGCGTGTGCGTGCCC-GTTCGCCCCTCGC-
GGTGCCTTAACCAACCCCGGCGCGAATTGCGCCAAGGACTTGTTAACGA----------
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GACTCTCGGCAACGGATATCTCGGCTCTCGCATCGATGAAGAACGTAGCGA-
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>MF444899.1 Mangifera griffithii

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GGACGCGCGGGCCTTGAGCTCGTACGCCC-TCGCTCG-----CACCGC--GTCGGACT-
TTCGTCGCGCGTGCACCCCTGCGTGTGCGTGCCT-GTCTGCCCCCTGC-
GGTGCTTTAACCAACCCCGGCGCGAATTGCGCCAAGGACTTGTTAACGA----------
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---
>MF444896.1 Mangifera pajang

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TTCGGTGCGCGTGCACCCCTGGGTGTGCGTGCCC-GTTTTCCCCTCGC-
GGTGCCTTAACCAACCCCGGCGCGAATTGCGCCAAGGACTTGTTAACGA----------
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GACTCTCGGCAACGGATATCTCGGCTCTCGCATCGATGAAGAACGTAGCGA-
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CGTGCGCTCGCCCGT-
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ATCCTGTCGTGCGGTTGCGCTCTCCCGACCTCGAGCTCTGCGACCCTAGAGACCGGGCGAAAGCCCGCTC----
>MF990367.1 Mangifera laurina

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TTCGGTGCGCGTGCACCCCTGCGTGTGCGTGCCC-GTTTTCCCCTCGC-
GGTGCCTTAACCAACCCCGGCGCGAATTGCGCCAAGGACTTGTTAACGA----------
GAGAGCTCGCTCCCGTCGCCCCCCGGACACGGTGCGTGCGTTCGGGACGTGATGCCTCCTTTCATTATCTATAAC
GACTCTCGGCAACGGATATCTCGGCTCTCGCATCGATGAAGAACGTAGCGA-
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CGTGCGCTCGCCCGT-
GCGGTTGGCCCAAATCTGAGTTCTCGGCGACGCTTTCCCGCGACAATCGGTGGCGTTTGAAAGACAACCTAGTG
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>MG6720042.1 Mangifera zeylanica

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TTCGTTGCGCGTGCACCCCTGCGTGTGTGTGCCC-GTTCGCCCCTCGC-
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GACTCTCGGCAACGGATATCTCGGCTCTCGCATCGATGAAGAACGTAGCGA-
AATGCGATACTTGGTGTGAATTGCAGAATCCCGTGAACCATCGAGTCTTTGAACGCAAGTTGCGCCCCAAGCCC

TTTAGGGCCGGGCACGTCTGCCTG--
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CGTGCGCTCGCCCGT-
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ATCCTGTCGTGCGGTTGCGTTCTCCCGGCCACGAGCTCTTCGACCCTAGAGACCGGGCGAGAGCCCTCTCGC--
>AB071675.1 Mangifera cochinchinensis

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TTCGTTGCATGTGCACCCCTGCGTGTGCGTGCCC-GTTTGCCCCTCGC-
GGTGCCTTAACCAACCCCGGCGCGAATTGCGCCAAGGACTTGTTAACGA----------
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GACTCTCGGCAACGGATATCTCGGCTCTCGCATCGATGAAGAACGTAGCGA-
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CGTGCGCTCGCCCGT-
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>AB071682.1 Mangifera oblongfolia

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TTCGTTGYGCGTGCACCCCTGCGTGTGCGTGCCC-GTTCGYCCCTCGC-
GGTGCCTTAACCAACCCCGGCGYGAATTGCGCCAAGGACTTGTTAACGA----------
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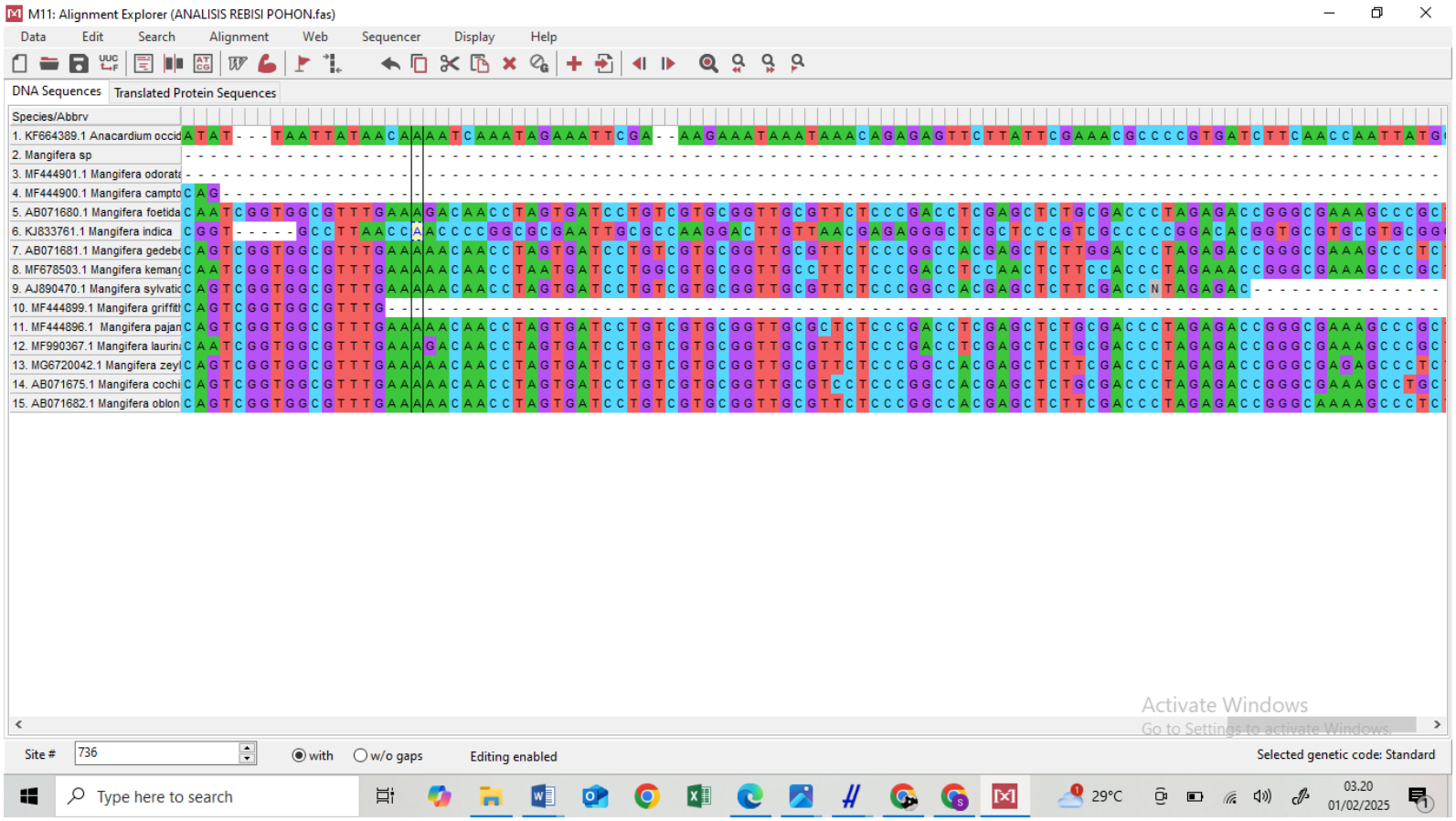
M11: Alignment Explorer (ANALISIS REBISI POHON.fas)
Data
Edit
Search
Alignment
Web
Sequencer
Display
Help
DNA Sequences
Translated Protein Sequences
Species/Abbrv
1. KF664389.1 Anacardium occid
2. Mangifera sp
3. MF444901.1 Mangifera odorata
4. MF444900.1 Mangifera campto
5. AB071680.1 Mangifera foetida
6. KJ833761.1 Mangifera indica
7. AB071681.1 Mangifera gedebe
8. MF678503.1 Mangifera kemang
9. AJ890470.1 Mangifera sylvatic
10. MF444899.1 Mangifera griffit
11. MF444896.1 Mangifera pajan
12. MF990367.1 Mangifera laurin
13. MG6720042.1 Mangifera zeyl
14. AB071675.1 Mangifera cochi
15. AB071682.1 Mangifera oblon
Activate Windows
Go to Settings to activate Windows.
Site #
736
with
w/o gaps
Editing enabled
Selected genetic code: Standard
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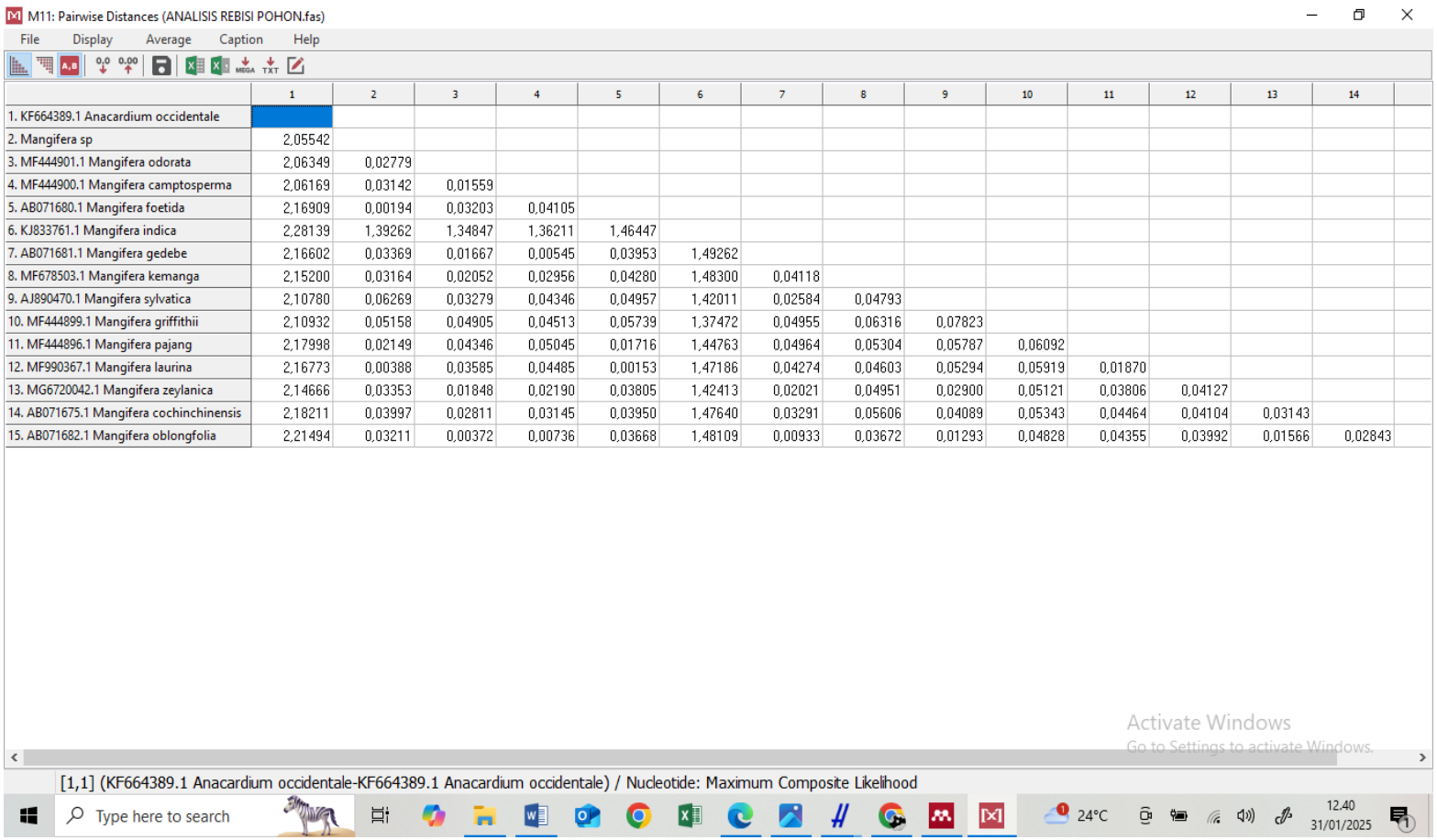
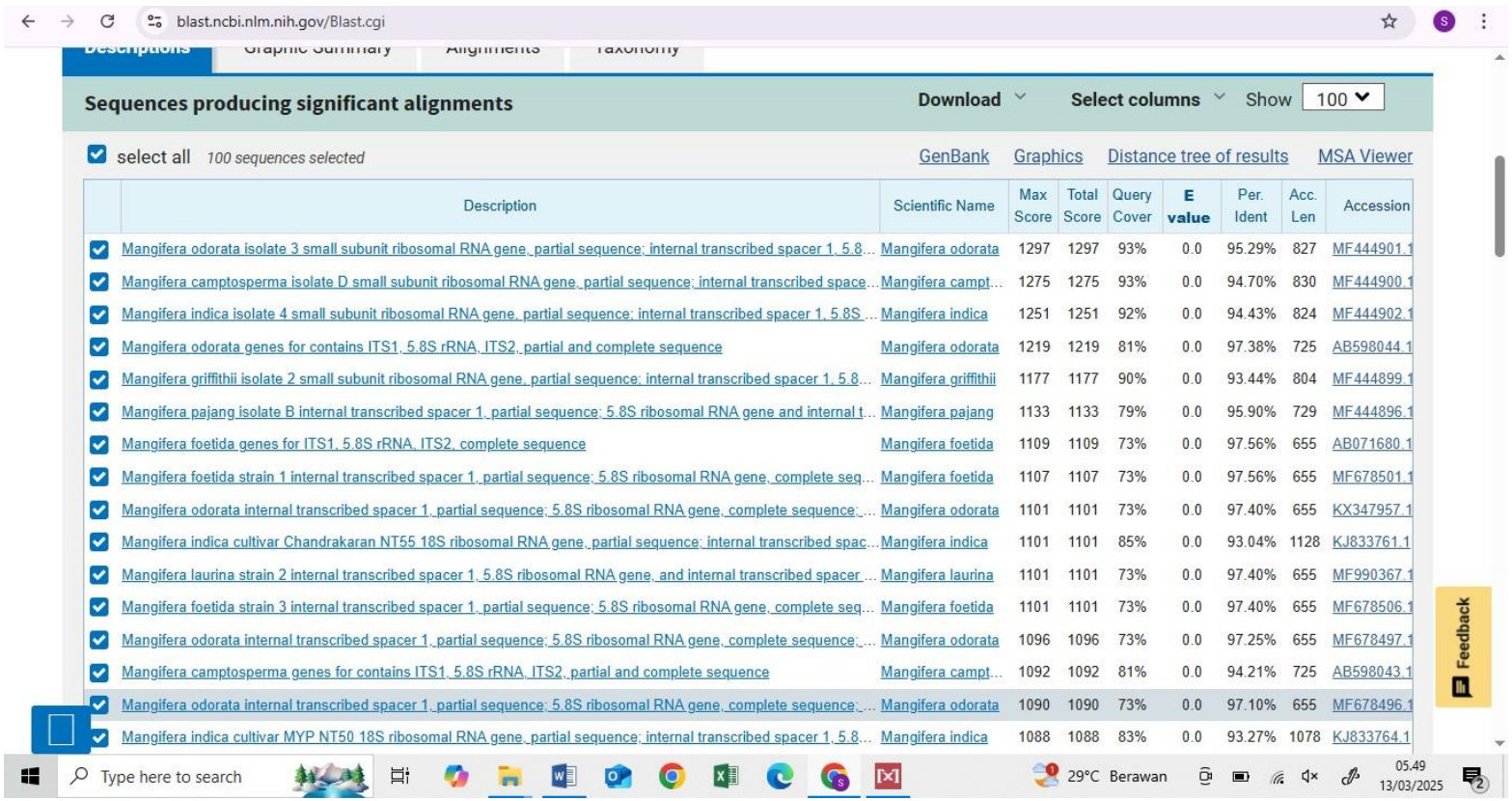
Lampiran 2 (Tabel Jarak Genetik)



	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. KF664389.1 Anacardium occidentale														
2. Mangifera sp	2,05542													
3. MF444901.1 Mangifera odorata	2,06349	0,02779												
4. MF444900.1 Mangifera camptosperma	2,06169	0,03142	0,01559											
5. AB071680.1 Mangifera foetida	2,16909	0,00194	0,03203	0,04105										
6. KJ833761.1 Mangifera indica	2,28139	1,39262	1,34847	1,36211	1,46447									
7. AB071681.1 Mangifera gedebe	2,16602	0,03369	0,01667	0,00545	0,03953	1,49262								
8. MF678503.1 Mangifera kemanga	2,15200	0,03164	0,02052	0,02956	0,04280	1,48300	0,04118							
9. AJ890470.1 Mangifera sylvatica	2,10780	0,06269	0,03279	0,04346	0,04957	1,42011	0,02584	0,04793						
10. MF444899.1 Mangifera griffithii	2,10932	0,05158	0,04905	0,04513	0,05739	1,37472	0,04955	0,06316	0,07823					
11. MF444896.1 Mangifera pajang	2,17998	0,02149	0,04346	0,05045	0,01716	1,44763	0,04964	0,05304	0,05787	0,06092				
12. MF990367.1 Mangifera laurina	2,16773	0,00388	0,03585	0,04485	0,00153	1,47186	0,04274	0,04603	0,05294	0,05919	0,01870			
13. MG6720042.1 Mangifera zeylanica	2,14666	0,03353	0,01848	0,02190	0,03805	1,42413	0,02021	0,04951	0,02900	0,05121	0,03806	0,04127		
14. AB071675.1 Mangifera cochinchinensis	2,18211	0,03997	0,02811	0,03145	0,03950	1,47640	0,03291	0,05606	0,04089	0,05343	0,04464	0,04104	0,03143	
15. AB071682.1 Mangifera oblongfolia	2,21494	0,03211	0,00372	0,00736	0,03668	1,48109	0,00933	0,03672	0,01293	0,04828	0,04355	0,03992	0,01566	0,02843

Lampiran 3 (Hasil BLAST Sampel *Mangifera sp*)



blast.ncbi.nlm.nih.gov/Blast.cgi

Sequences producing significant alignments

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select all 100 sequences selected

GenBank | Graphics | Distance tree of results | MSA Viewer

Description	Scientific Name	Max Score	Total Score	Query Cover	E value	Per. Ident	Acc. Len	Accession
Mangifera odorata isolate 3 small subunit ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8...	Mangifera odorata	1297	1297	93%	0.0	95.29%	827	MF444901.1
Mangifera camptosperma isolate D small subunit ribosomal RNA gene, partial sequence; internal transcribed space...	Mangifera campt...	1275	1275	93%	0.0	94.70%	830	MF444900.1
Mangifera indica isolate 4 small subunit ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ...	Mangifera indica	1251	1251	92%	0.0	94.43%	824	MF444902.1
Mangifera odorata genes for contains ITS1, 5.8S rRNA, ITS2, partial and complete sequence	Mangifera odorata	1219	1219	81%	0.0	97.38%	725	AB598044.1
Mangifera griffithii isolate 2 small subunit ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8...	Mangifera griffithii	1177	1177	90%	0.0	93.44%	804	MF444899.1
Mangifera pajang isolate B internal transcribed spacer 1, partial sequence; 5.8S ribosomal RNA gene and internal t...	Mangifera pajang	1133	1133	79%	0.0	95.90%	729	MF444896.1
Mangifera foetida genes for ITS1, 5.8S rRNA, ITS2, complete sequence	Mangifera foetida	1109	1109	73%	0.0	97.56%	655	AB071680.1
Mangifera foetida strain 1 internal transcribed spacer 1, partial sequence; 5.8S ribosomal RNA gene, complete seq...	Mangifera foetida	1107	1107	73%	0.0	97.56%	655	MF678501.1
Mangifera odorata internal transcribed spacer 1, partial sequence; 5.8S ribosomal RNA gene, complete sequence;...	Mangifera odorata	1101	1101	73%	0.0	97.40%	655	KX347957.1
Mangifera indica cultivar Chandrakaran NT55 18S ribosomal RNA gene, partial sequence; internal transcribed spac...	Mangifera indica	1101	1101	85%	0.0	93.04%	1128	KJ833761.1
Mangifera laurina strain 2 internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer ...	Mangifera laurina	1101	1101	73%	0.0	97.40%	655	MF990367.1
Mangifera foetida strain 3 internal transcribed spacer 1, partial sequence; 5.8S ribosomal RNA gene, complete seq...	Mangifera foetida	1101	1101	73%	0.0	97.40%	655	MF678506.1
Mangifera odorata internal transcribed spacer 1, partial sequence; 5.8S ribosomal RNA gene, complete sequence;...	Mangifera odorata	1096	1096	73%	0.0	97.25%	655	MF678497.1
Mangifera camptosperma genes for contains ITS1, 5.8S rRNA, ITS2, partial and complete sequence	Mangifera campt...	1092	1092	81%	0.0	94.21%	725	AB598043.1
Mangifera odorata internal transcribed spacer 1, partial sequence; 5.8S ribosomal RNA gene, complete sequence;...	Mangifera odorata	1090	1090	73%	0.0	97.10%	655	MF678496.1
Mangifera indica cultivar MYP NT50 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8...	Mangifera indica	1088	1088	83%	0.0	93.27%	1078	KJ833764.1

Feedback

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13/03/2025

Lampiran 4 (Dokumentasi Penelitian)

Sampel Mangifera sp

Preparasi Sampel

Proses sentrifugasi

Proses Amplifikasi

Proses Elektroforesis

Pohon Mangifera sp