

LAMPIRAN

Studi Metagenomik Sampel Perairan yang Diperkaya dari Wilayah Hilir Sungai Citarum dan Potensinya sebagai Agen Bioremediasi

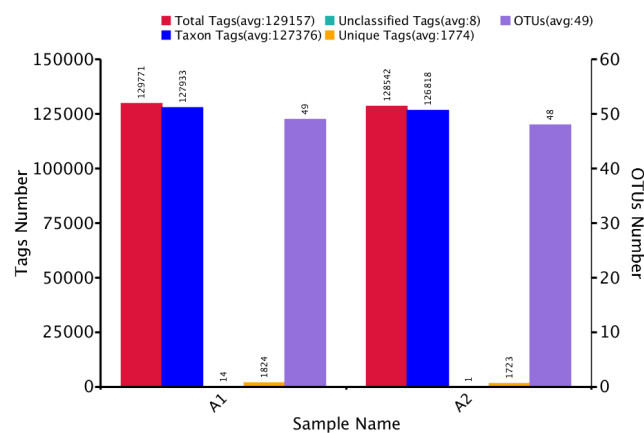
Metagenomics Study of Enriched Water Samples from Citarum River Downstream and Their Potency as Bioremediation Agent

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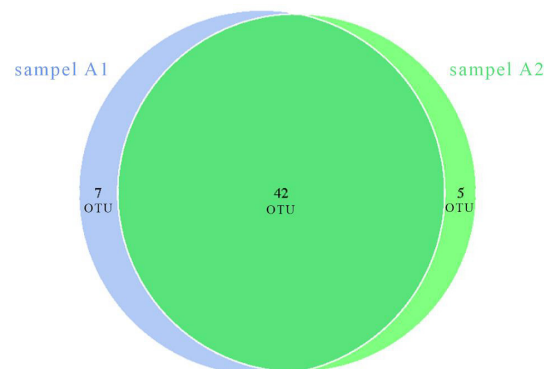
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Lampiran 1. Tags dan OTU hasil bacaan *Next Generation Sequencing* (NGS) yang teridentifikasi pada sampel yang diperkaya asal Perairan Muara Gembong

Attachement 1. *Tags and OTU results of Next Generation Sequencing (NGS) reads identified in enriched samples from Muara Gembong waters*



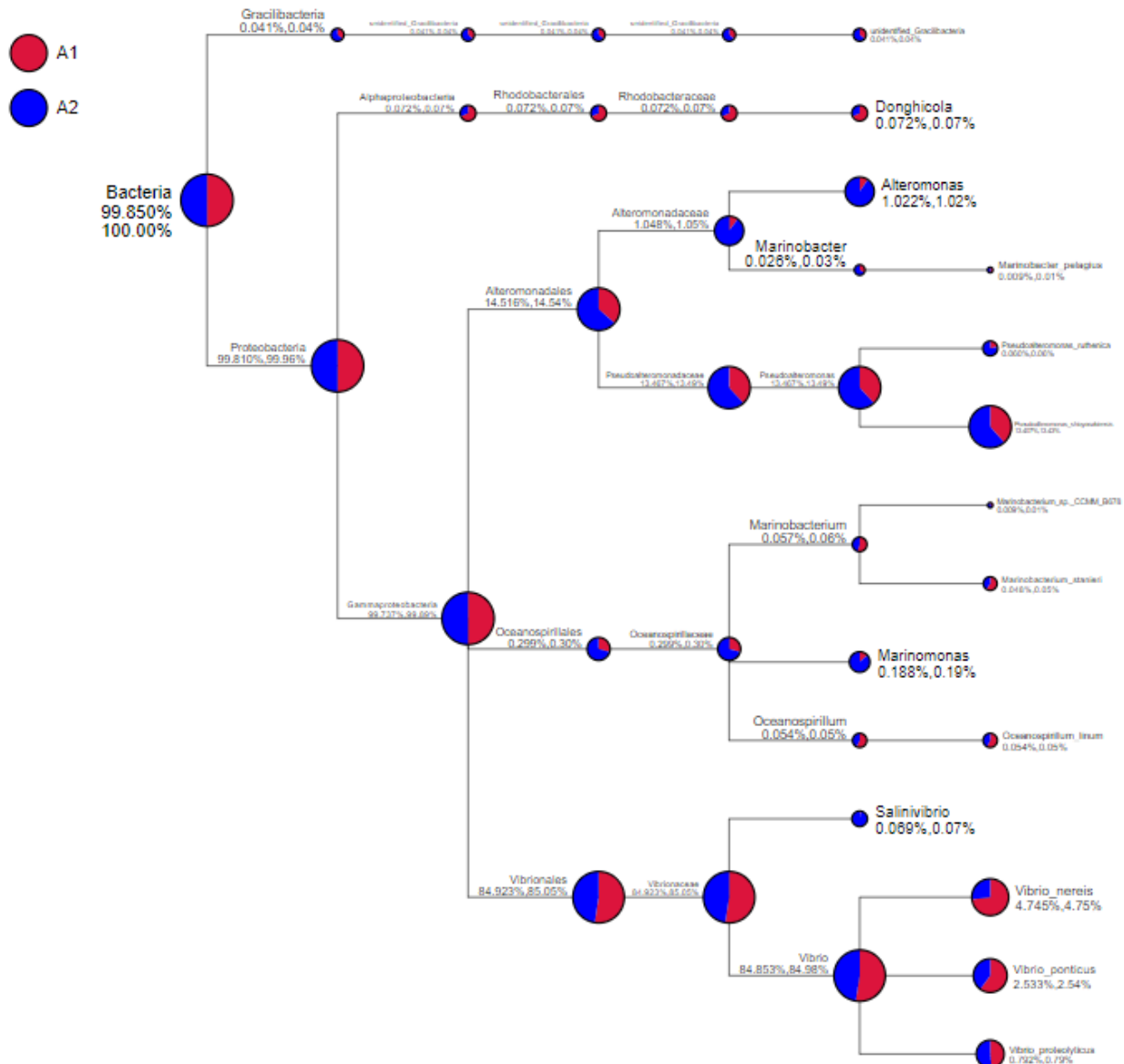
Lampiran 2. Diagram vena jumlah OTU pada kedua water sampels perairan yang diperkaya dari Perairan Muara Gembong
(Warna biru dan hijau muda: jumlah OTU unik pada masing-masing sampel; warna hijau tua: jumlah OTU umum yang ditemukan pada kedua sampel)

Attachement 2. *Venn diagram of OTU count in both enriched samples from Muara Gembong Waters. (Blue and light green colors: the number of unique OTUs in each sample; dark green color: the number of common OTUs found in both samples)*

Lampiran Tabel 1. Identifikasi Bakteri pada sampel perairan yang terkaya dari Perairan Muara Gembong berdasarkan Taksonomi dan Kelimpahan Spesies

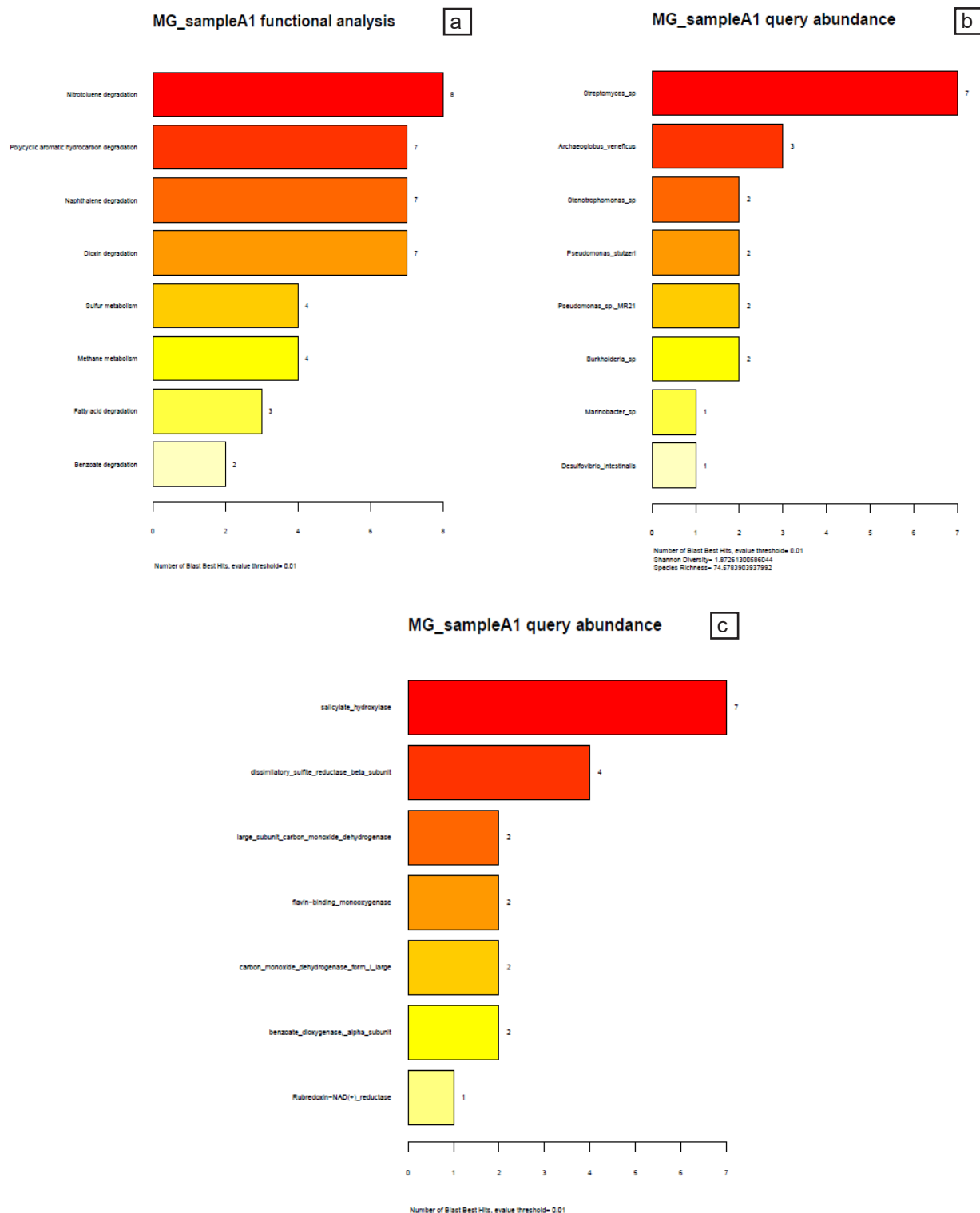
Attachment Table 1. Identification of Bacteria in enriched water samples from Muara Gembong Waters based on Taxonomy and Species Abundance

No	Kingdom	Phylum	Kelas	Ordo	Famili	Genus	Species	Kelimpahan (%) A1	A2
1			Alphaproteobacteria	Rhodobacterales	Rhodobacteraceae	<i>Donghicola</i>	<i>unidentified</i> species	0.0986	0.0457
2					Rhodobacteraceae	<i>unidentified</i> genus	<i>unidentified</i> species	0.1065	0.0489
3				Aeromonadales	Aeromonadaceae	<i>Oceanisphaera</i>	<i>Oceanisphaera donghaensis</i>	0.0055	0.0110
4						<i>Alteromonas</i>	<i>unidentified</i> species	0.1956	18.491
5					Alteromonadaceae	<i>Marinobacter</i>	<i>Marinobacter pelagus</i>	0.0095	0.0095
6						<i>Marinobacter</i>	<i>unidentified</i> species	0.0173	0.0347
7						<i>Idiomarina</i>	<i>Idiomarina batika</i>	0.0032	0.0055
8				Alteromonadales	Idiomarinaceae	<i>Idiomarina</i>	<i>Idiomarina marina</i>	0.0126	0.0173
9						<i>Idiomarina</i>	<i>Idiomarina zobellii</i>	0.0126	0.0173
10						<i>Shewanella</i>	<i>Shewanella aquimarina</i>	0.0000	0.0047
11					Pseudoalteromonadaceae	<i>Pseudoalteromonas</i>	<i>Pseudoalteromonas shioyasakiensis</i>	102.934	165.204
12						<i>Pseudoalteromonas</i>	<i>Pseudoalteromonas ruthenica</i>	0.0260	0.0945
13				Thiotrichales	Piscirickettsiaceae	<i>Methylophaga</i>	<i>unidentified</i> species	0.0055	0.0331
14						<i>Methylophaga</i>	<i>Methylophaga marina</i>	0.0055	0.0284
15					Halomonadaceae	<i>Halomonas</i>	<i>Halomonas taeanensis</i>	0.0063	0.0000
16						<i>Halomonas</i>	<i>unidentified</i> species	0.0126	0.0016
17						<i>Marinobacterium</i>	<i>Marinobacterium stanieri</i>	0.0576	0.0386
18				Oceanospirillales	Oceanospirillaceae	<i>Marinobacterium</i>	<i>Marinobacterium</i> sp. CCMM_B678	0.0055	0.0126
19						<i>Marinomonas</i>	<i>unidentified</i> species	0.0505	0.3264
20						<i>Oceanospirillum</i>	<i>Oceanospirillum linum</i>	0.0615	0.0457
21	Bacteria			Pseudomonadales	Moraxellaceae	<i>Psychrobacter</i>	<i>Psychrobacter celer</i>	0.0032	0.0047
22						<i>Salinivibrio</i>	<i>unidentified</i> species	0.0032	0.1356
23						<i>Vibrio</i>	<i>unidentified</i> species	890.371	806.693
24				Vibrionales	Vibrionaceae	<i>Vibrio</i>	<i>Vibrio nereis</i>	69.367	25.540
25						<i>Vibrio</i>	<i>Vibrio ponticus</i>	30.437	20.218
26						<i>Vibrio</i>	<i>Vibrio proteolyticus</i>	0.7672	0.8177
27						<i>Photobacterium</i>	<i>Photobacterium ganghwense</i>	0.0055	0.0173
28			Epsilonproteobacteria	Campylobacteriales	Campylobacteraceae	<i>Arcobacter</i>	<i>unidentified</i> species	0.0173	0.0221
29						<i>Bacillus</i>	<i>Bacillus marisflavi</i>	0.0032	0.0000
30			Bacilli	Bacillales	Bacillaceae	<i>Halobacterium</i>	<i>unidentified</i> species	0.0000	0.0126
31					Carnobacteriaceae	<i>Trichococcus</i>	<i>Trichococcus collinsii</i>	0.0000	0.0024
32				Lactobacillales	Family XII	<i>Exiguobacterium</i>	<i>Exiguobacterium mexicanum</i>	0.0016	0.0103
33	Firmicutes					<i>Clostridium</i> sensu stricto_11	<i>Clostridium</i> sp. DY2632	0.0000	0.0024
34						<i>Proteiniclasticum</i>	<i>unidentified</i> species	0.0016	0.0071
35			Clostridia	Clostridiales	Clostridiaceae_1	<i>Oceanithabodus</i>	<i>unidentified</i> species	0.0063	0.0024
36						<i>unidentified</i> genus	<i>unidentified</i> species	0.0000	0.0000
37					Peptostreptococcaceae	<i>Tepidibacter</i>	<i>unidentified</i> species	0.0016	0.0024
38	Gracilbacteria	<i>unidentified</i> Gracilbacteria		<i>unidentified</i> Gracilbacteria	<i>unidentified</i> Gracilbacteria	<i>unidentified</i> Gracilbacteria	<i>unidentified</i> Gracilbacteria	0.0292	0.0520
39	Bacteroidetes	Flavobacteriia		Flavobacteriales	Flavobacteriaceae	<i>Mesoflavibacter</i>	<i>unidentified</i> species	0.0024	0.0071
40					others			787.469	777.762



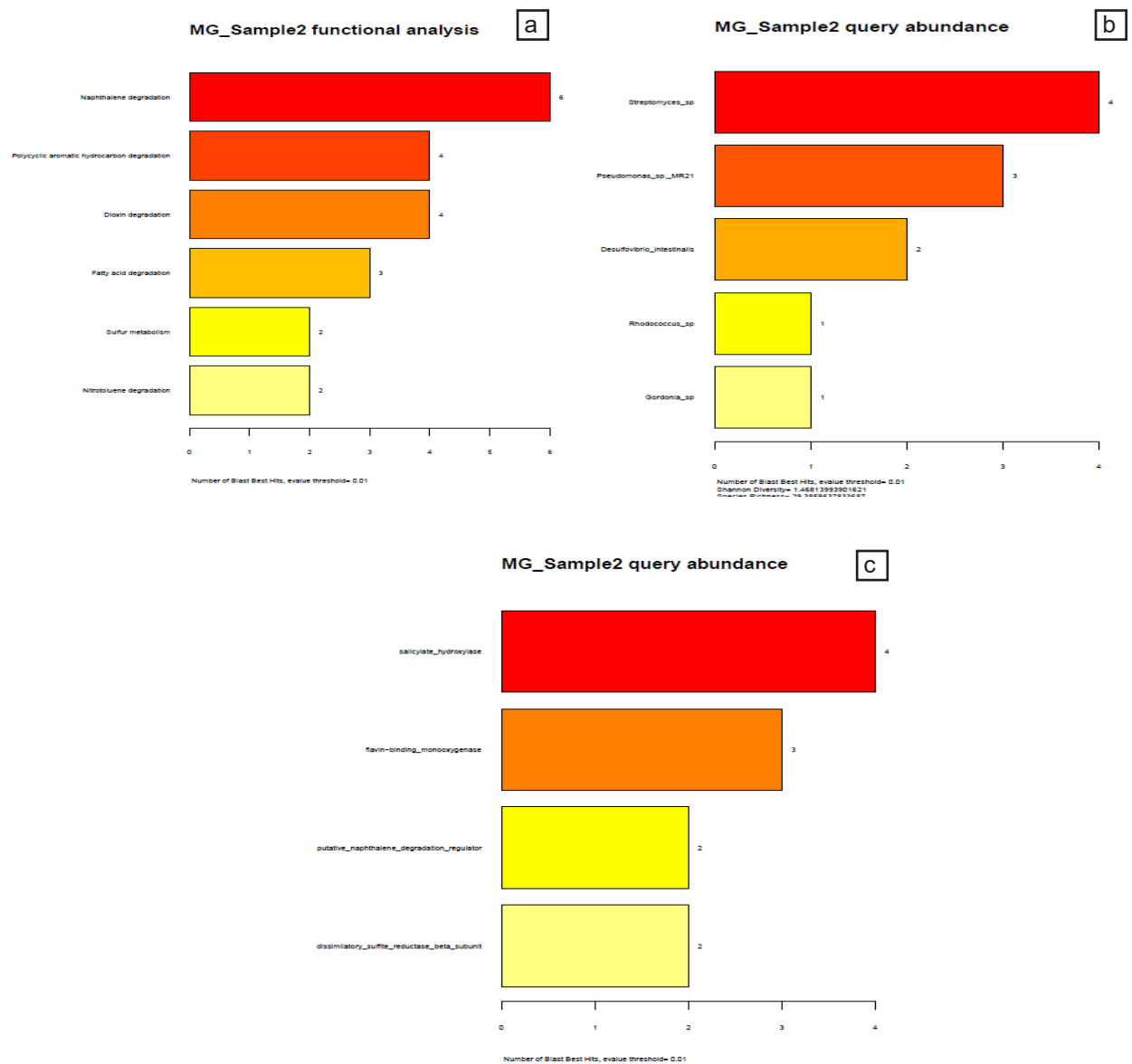
Lampiran 3. Kelimpahan Bakteri Tingkatan Taksonomi pada sampel perairan yang diperkaya dari Perairan Muara Gembong

Attachement 3. *Bacterial Abundance Taxonomic Levels in enriched water samples from Muara Gembong Waters*



Lampiran 4. Analisis fungsional jalur degradasi yang teridentifikasi pada komposisi bakteri sampel A1. a) jalur degradasi; b) jenis bakteri; c) nama protein dalam degradasi

Attachement 4. Functional analysis of identified degradation pathway on bacterial composition of sample A1. a) degradation pathways; b) type of bacteria; c) the name of the protein in degradation



Lampiran 5. Analisis fungsional jalur degradasi yang teridentifikasi pada komposisi bakteri sampel A2.
a) jalur degradasi; b) jenis bakteri; c) nama protein dalam degradasi

Attachement 5. Functional analysis of identified degradation pathway on bacterial composition of sample A2.
a) degradation pathways; b) the type of bacteria; c) the name of the protein in degradation