- 1 VqsA, A Novel LysR-type Transcriptional Regulator Coordinates Quorum
- 2 Sensing (QS) and is Controlled by QS to Regulate Virulence in the Pathogen
- 3 Vibrio alginolyticus
- 4 Xiating Gao^a, Xuetong Wang^a, Qiaoqiao Mao^a, Rongjing Xu^e, Xiaohui Zhou^{c,d}, Yue
- 5 Ma^{a,b}, Qin Liu^{a,b}, Yuanxing Zhang^{a,b}, Qiyao Wang^{a,b,#}
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- 9 Veterinary Science, University of Connecticut, Storrs, CT 06269, USA^c; Jiangsu Key
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- 11 Important Animal Infectious Diseases and Zoonoses, Yangzhou University,
- Yangzhou 225009, China^d; Yantai Tianyuan Aquatic Co. Ltd, Shandong Yantai
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- 18 Legends for Supplemental Figures
- FIG S1 Diagrams for the modified bacterial one-hybrid (B1H) assay. The promoter
- 20 DNA was cloned into the pBXcmT plasmid containing the HIS3 and aadA genes,
- conferring resistance to 3-amino-1,2,4-triazole (3-AT) and Str. The gene encoding a
- 22 TF was cloned into the pTRG vector. Then, the derivative plasmids were
- 23 co-transformed into the reporter strain.
- FIG S2 Growth curves of the in-frame deletion mutants of the genes encoding
- selected TFs. The $\Delta vqsA$, $\Delta luxR$, $\Delta aphA$ strains as well as the corresponding
- complement strains $vqsA^+$, $luxR^+$, and $aphA^+$ are included. The bacterial strains were
- inoculated into LBS medium and grown at 30°C for 15 h with shaking.
- FIG S3 Identification of transcriptional start site of vqsA with 5' rapid amplification
- of cDNA ends (5'-RACE) experiment with WT, $\Delta vqsA$, or $\Delta luxR$ strains. The primer
- extension products amplified from $\Delta vqsA$ mutant (lane 1), wild type (lane 2), as well
- as $\Delta luxR$ using primers RACE-adapter/18672-RACE-1 were analyzed on 1% agarose
- gels and visualized by ethidium bromide straining. M: DNA Marker.
- 33 FIG S4 VqsA is structurally related to the ligand-binding domain of AphB. Phy2 was
- used to model VqsA. The tetramer structure of AphB (A) and the monomer structure
- model of VgsA (B) are shown and have been superimposed (C, D). The indicated
- cysteine (Cys) residues Cys189 and Cys166 in VqsA and Cys235 in AphB are located
- at the site that might mediate intramolecular interaction.

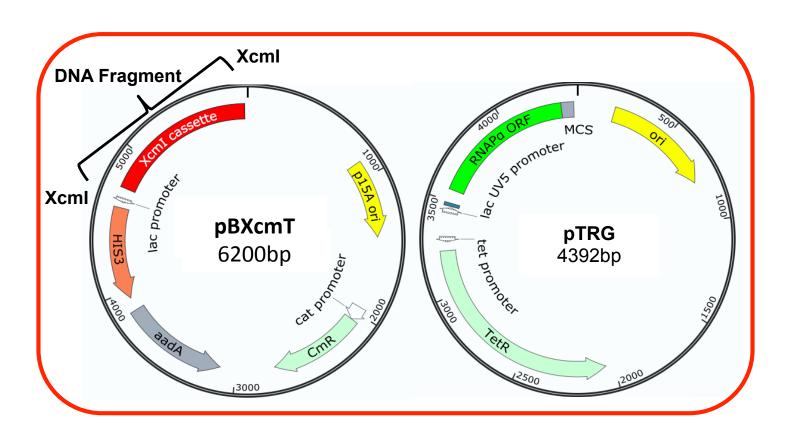


Fig. S1

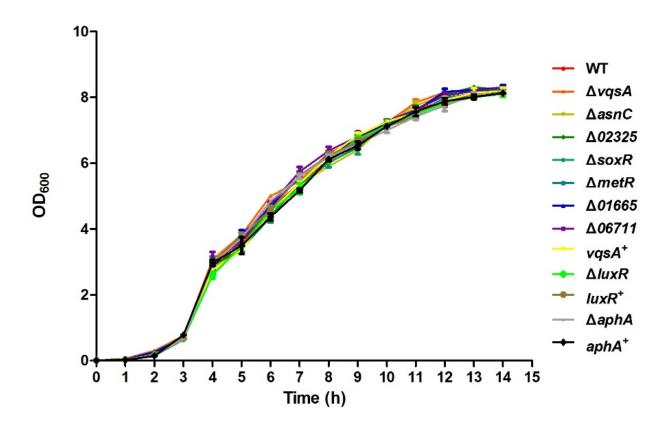


Fig. S2

4,500 bp 3,000 bp 2,000 bp 1,200 bp 800 bp 500 bp 200 bp

Fig. S3

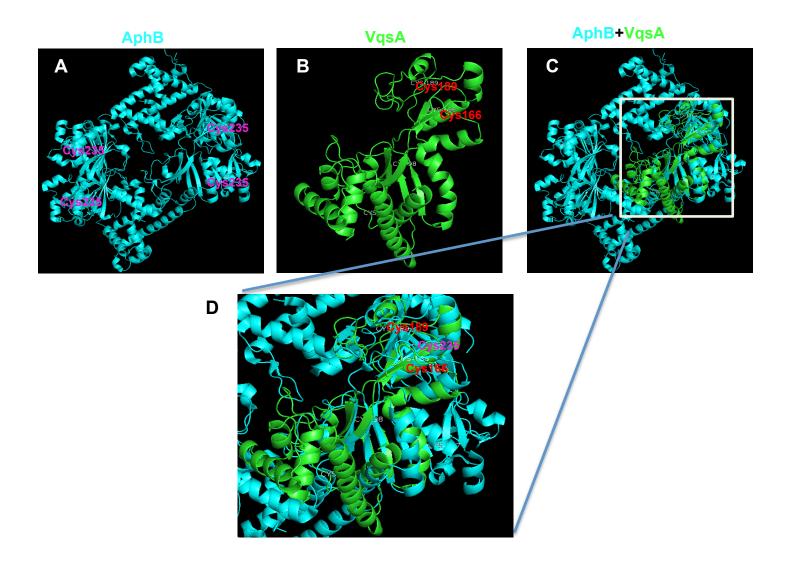


Fig. S4

Gene ID ^a	Gene ID ^b	Annotation	Screen of	Screen of
			P_{hvR}	P_{aphA}
N646_RS09150	V12G01-14830	AphA	++++	++++
N646_RS19485	V12G01-01715	transcriptional regulator, SorC family protein	-	-
N646_RS14145	V12G01-05221	putative glycine cleavage operon activator	-	-
N646_RS20855	V12G01-08785	putative AraC-family transcriptional regulatory protein	++++	-
N646_RS13825	V12G01-12890	putative transcriptional regulator, LysR family protein	-	-
N646_RS20060	V12G01-01145	transcriptional regulator BetI	-	-
N646_RS19970	V12G01-01235	putative transcriptional regulator, also putative	-	-
		ATP-binding component of a transport system		
N646_RS22960	V12G01-06376	putative transport protein	-	-
N646_RS19535	V12G01-01665	XRE family transcriptional regulator	++++	+++
N646_RS18615	V12G01-02620	SoxR protein	+++++	++++
N646_RS11260	V12G01-10813	transcriptional regulator AsnC	+++	++++
N646_RS11785	V12G01-11368	nucleoid occlusion protein	-	-
N646 RS21110	V12G01-08505	transcriptional regulator, LysR family protein	-	_
N646_RS14830	V12G01-15705	N-acetylglucosamine repressor	-	-
N646_RS12110	V12G01-11698	hypothetical protein	-	_
N646 RS01510	V12G01-19561	histidine utilization repressor	-	_
N646 RS23000	V12G01-06336	putative transcriptional regulator, AraC/XylS family	-	_
		protein		
N646_RS12395	V12G01-11943	YttJ family protein	-	-
N646_RS08250	V12G01-14004	hypothetical protein	-	-
N646_RS08840	V12G01-14569	putative transcriptional regulator	-	_
N646_RS21395	V12G01-07978	putative transcriptional regulator	-	_
N646_RS17170	V12G01-04116	ParB family protein	-	_
N646 RS02795	V12G01-18257	periplasmic spermidine/putrescine-binding protein	-	_
N646_RS15865	V12G01-05506	transcriptional regulator, MerR family protein	-	-
N646_RS17125	V12G01-04161	hypothetical protein	-	_
N646_RS07310	V12G01-21963	putative transcriptional regulator	-	-
N646_RS16100	V12G01-05261	transcriptional regulator, LysR family protein	-	-
N646_RS02240	V12G01-18837	transcriptional regulator (DeoR family) protein	-	-
N646_RS05105	V12G01-16107	putative transcriptional regulator, LysR family protein	-	-
N646_RS20755	V12G01-08885	transcriptional regulator, HTH_3 family protein	-	-
N646_RS22090	V12G01-07278	probable transcriptional regulator	-	-
N646_RS20340	V12G01-09302	putative transcriptional regulator, LysR family protein	-	++++
N646_RS22830	V12G01-06506	transcriptional regulator, AraC/XylS family protein	-	-
N646_RS23180	V12G01-06156	putative transcriptional regulator	-	-
N646_RS18530	V12G01-02715	putative transcriptional regulator, LysR family protein	-	++++
N646_RS20725	V12G01-08915	transcriptional regulator, LysR family protein	-	-
N646_RS20390	V12G01-09245	putative LysR-type regulator	-	++++
N646 RS14075	V12G01-12620	hypothetical protein	_	_

N646_RS19855	V12G01-01355	transcriptional regulator of succinylCoA synthetase operon	-	-
N646 RS22935	V12G01-06401	hypothetical protein	_	_
N646 RS20260	V12G01-09387	putative transcriptional regulator, AraC/XylS family	_	_
11010_11020200	V12G01 07507	protein		
N646_RS00535	V12G01-20563	hypothetical protein	-	-
N646_RS12450	V12G01-11998	thiamin ABC transporter, periplasmic thiamin-binding	-	-
		protein		
N646_RS16975	V12G01-04326	putative transcriptional regulator	-	_
N646 RS18865	V12G01-02360	putative regulatory protein	-	_
N646_RS01995	V12G01-14985	probable regulatory protein, MarR family	-	++++
N646 RS15990	V12G01-05376	transcriptional regulator, LysR family protein	-	++++
N646 RS11040	V12G01-10631	transcriptional activator IlvY	-	_
N646 RS08170	V12G01-13919	chromosome replication initiation inhibitor protein	_	_
N646 RS03250	V12G01-17872	probable LysR-family transcriptional regulator	_	_
N646 RS16735	V12G01-04586	transcriptional regulator	_	_
N646 RS19805	V12G01-01405	putative transcriptional regulator	_	_
N646 RS10270	V12G01-09717	transcriptional regulator, ArsR family protein	_	_
N646 RS23700	V12G01-14189	hypothetical transcriptional regulator, MarR family protein	_	_
N646 RS17005	V12G01-04291	transcriptional regulator, AsnC family protein	_	_
N646 RS00765	V12G01-20341	leucine-responsive regulatory protein	_	++++
N646 RS17345	V12G01-03946	transcriptional regulator, LysR family protein	_	++++
N646 RS13565	V12G01-13140	putative phosphate ABC transporter, periplasmic	_	_
	,	phosphate-binding protein		
N646_RS11165	V12G01-10748	putative transcriptional regulator, LysR family protein	-	-
N646_RS21235	V12G01-08380	transcriptional regulator	-	++++
N646_RS01180	V12G01-19911	putative ABC transporter, periplasmic substrate-binding	-	-
		protein		
N646_RS22975	V12G01-06356	Hypothetical transcriptional regulator	-	-
N646_RS09535	V12G01-15180	transcriptional reguator, TetR family protein	-	++++
	V12G01-03060	putative transcriptional regulator	-	-
N646_RS22955	V12G01-06381	putative transcriptional regulator	-	-
N646_RS18970	V12G01-02250	sucrose operon repressor ScrR, putative	-	-
N646_RS18895	V12G01-02325	Transcriptional activator	++++	++++
N646_RS03270	V12G01-17852	hypothetical protein	-	-
N646_RS02315	V12G01-18762	transcriptional regulator, LysR family protein	-	-
N646_RS22500	V12G01-06841	putative transcriptional regulator	-	+++++
N646_RS18715	V12G01-02520	putative transcriptional regulator	-	-
N646_RS07755	V12G01-21538	LuxR	+++	+++++
N646_RS19030	V12G01-02195	cold shock transcriptional regulator CspA	-	-
N646_RS18825	V12G01-02400	transcriptional regulator, GntR family protein	-	-
N646_RS02695	V12G01-18362	putative transcriptional regulator	-	-
N646_RS20015	V12G01-01190	putative transcriptional regulator	-	-
N646_RS10525	V12G01-09943	transcriptional regulator, LysR family protein	-	-

N646_RS22180	V12G01-07188	transcriptional regulator, LysR family protein	-	-
N646_RS10770	V12G01-10261	transcriptional regulator, LysR family protein	-	-
N646_RS17515	V12G01-03781	ranscriptional regulator, AsnC family protein	-	-
N646_RS17790	V12G01-03522	putative transcriptional regulator CpxR	-	-
N646_RS14230	V12G01-12480	trehalose repressor	-	-
N646_RS19280	V12G01-01935	putative transcription regulator	-	-
N646_RS22295	V12G01-07063	putative transcriptional regulator	-	-
N646_RS03350	V12G01-17772	hypothetical transcriptional regulator	-	-
N646_RS03335	V12G01-17787	hypothetical transcriptional regulator	-	-
N646_RS07275	V12G01-22003	putative transcriptional regulator, LuxR family protein	-	-
N646_RS17150	V12G01-04136	putative transcriptional regulator, LysR family protein	-	-
N646_RS15665	V12G01-05706	transcriptional regulator, LysR family protein	-	-
N646_RS17460	V12G01-03836	putative LysR-family transcriptional regulatory protein	++++	-
N646_RS09840	V12G01-00090	zinc-responsive transcriptional regulator	-	-
N646_RS07775	V12G01-21518	ranscriptional regulator of pyruvate dehydrogenase	-	-
		complex		
N646_RS10855	V12G01-13364	putative transcriptional regulator	-	-
N646_RS13255	V12G01-13429	sigma-54 dependent transcriptional regulator vpsR	-	-
N646_RS03260	V12G01-17862	Putative transcriptional regulator, LysR family protein	-	-
N646_RS20805	V12G01-08835	fructose repressor	-	-
N646_RS20710	V12G01-08930	transcriptional regulator, AraC family protein	-	-
N646_RS14060	V12G01-12635	transcriptional regulator Crl	-	-
N646_RS13690	V12G01-13025	hypothetical protein	-	-
N646_RS11160	V12G01-10743	gluconate utilization system Gnt-I transcriptional repressor	-	-
N646_RS20210	V12G01-00995	ribose operon repressor	-	-
N646_RS22540	V12G01-10441	cold shock transcriptional regulator CspA	-	-
N646_RS00985	V12G01-20111	putative transcriptional regulator	-	-
N646_RS00825	V12G01-20266	putative transcriptional regulator	-	-
N646_RS22990	V12G01-06346	putative regulatory protein, ArsR family	-	-
N646_RS00470	V12G01-20643	DNA-binding response regulator TorR	-	-
N646_RS07430	V12G01-21838	transcriptional regulator, MarR family protein	-	-
N646_RS09670	V12G01-00930	transcriptional regulator, LuxR family protein	-	-
N646_RS09630	V12G01-00970	transcriptional regulator CpxR	-	-
N646_RS17935	V12G01-03365	transcriptional regulator, LysR family protein	-	-
N646_RS08450	V12G01-14099	transcriptional regulator, LacI family protein	-	-
N646_RS11065	V12G01-10656	transcriptional regulator, TetR family protein	-	-
N646_RS01205	V12G01-19886	putative transcriptional regulator	-	-
N646_RS01735	V12G01-19317	putative transcription regulator	-	-
N646_RS19210	V12G01-02010	putative transcriptional regulator	-	-
N646_RS05480	V12G01-23725	fatty acid metabolism regulator	-	-
N646_RS12685	V12G01-12238	mannitol operon repressor	-	-
N646_RS17920	V12G01-03392	putative transcriptional regulator	-	-
N646_RS17985	V12G01-03305	putative transcriptional regulator	-	-
N646_RS01070	V12G01-20021	psp operon transcriptional activator		

N646_RS09170	V12G01-14850	putative transcriptional regulator	-	-
N646_RS04685	V12G01-16507	transcriptional regulator, LuxR family protein	-	-
N646_RS08210	V12G01-13959	putative transcriptional regulator	-	-
N646_RS19200	V12G01-02020	putative GntR-family regulatory protein	-	-
N646_RS19395	V12G01-01805	nitrate/nitrite response regulator protein	-	-
N646_RS19305	V12G01-01910	putative transcriptional regulator	-	-
N646_RS19080	V12G01-02145	putative DNA-binding response regulator	-	-
N646_RS18905	V12G01-02315	transcriptional regulator, LysR family protein	-	-
N646_RS18740	V12G01-02490	spermidine/putrescine ABC transporter	-	-
N646_RS18445	V12G01-02800	transcriptional regulator	-	-
N646_RS18210	V12G01-03040	ABC-type Fe3+ transport system, periplasmic	-	-
		component		
N646_RS18175	V12G01-03095	putative transcriptional regulator, TetR family protein	-	-
N646_RS18110	V12G01-03160	putative transcriptional regulator (repressor protein)	-	-
N646_RS03740	V12G01-17377	response regulator	-	-
N646_RS03370	V12G01-17752	transcriptional regulator, putative	-	-
N646_RS03360	V12G01-17762	putative transcriptional regulator, LysR family protein	-	-
N646_RS03235	V12G01-17887	Hypothetical transcriptional regulator	-	-
N646_RS21820	V12G01-07463	putative TetR-family protein	-	-
N646_RS21620	V12G01-07658	transcriptional regulator, LysR family protein	-	-
N646_RS15740	V12G01-05626	putative transcriptional regulator, LuxR family protein	-	-
		VpsT		
N646_RS01950	V12G01-19117	putative transcriptional regulator	-	-
N646_RS02665	V12G01-18392	ROK family protein	-	-
N646_RS07260	V12G01-22018	regulator of ebg operon	-	-
N646_RS15370	V12G01-06006	LuxT	-	-
N646_RS12640	V12G01-12193	transcriptional regulator, LysR family protein	-	-
N646_RS17045	V12G01-04246	transcriptional regulator, AraC/XylS family protein	-	-
N646_RS15565	V12G01-05796	putative transcriptional regulator	-	-
N646_RS01550	V12G01-19507	hypothetical protein	-	-
N646_RS12650	V12G01-12203	transcriptional regulator, DeoR family protein	-	-
N646_RS01700	V12G01-19352	transcriptional regulator, LysR family protein	-	-
N646_RS01995	V12G01-19072	transcriptional regulator, MarR family protein	-	-
N646_RS22540	V12G01-23293	cold shock transcriptional regulator CspA	-	-
N646_RS12150	V12G01-11743	transcriptional repressor, LacI family protein	-	-
N646_RS22880	V12G01-06456	transcriptional regulator, LysR family protein	-	-
N646_RS15810	V12G01-05561	phosphate ABC transporter, periplasmic	-	-
		phosphate-binding protein		
N646_RS01285	V12G01-19801	Na+/H+-antiporter protein	-	-
N646_RS04975	V12G01-16237	putative transcriptional regulator	++++	-
N646_RS17500	V12G01-03796	putative transcriptional regulator	++++	-
N646_RS17050	V12G01-04241	transcriptional regulator, LuxR family protein vqmA	+++++	-
N646_RS15605	V12G01-05756	naerobic nitric oxide reductase transcription regulator	-	-
N646_RS22540	V12G01-06801	cold shock transcriptional regulator CspA	+++++	-

N646_RS13315	V12G01-13359	transcriptional activator protein NhaR	-	-
N646_RS20645	V12G01-08990	putative transcriptional regulator	-	-
N646_RS20480	V12G01-09155	putative transcription regulator protein	-	-
N646_RS13600	V12G01-13110	phosphate transport system regulatory protein PhoU	-	-
N646_RS21320	V12G01-08290	putative AraC-family transcriptional regulatory rotein	-	-
N646_RS21210	V12G01-08410	putative transcriptional regulator	-	-
	V12G01-08475	hypothetical protein	-	-
N646_RS22430	V12G01-06918	putative transcriptional regulator	-	-
N646_RS22285	V12G01-07073	transcriptional regulator, GntR family/amidohydrolase	-	-
		family protein		
N646_RS08590	V12G01-14244	BolA/YrbA family protein	-	-
N646_RS13065	V12G01-13629	transcriptional regulator, LysR family protein	-	-
N646_RS17405	V12G01-03891	putative transcription regulator protein	-	-
N646_RS23150	V12G01-06186	putative transcriptional regulator, MerR family protein	-	-
N646_RS23140	V12G01-06196	hypothetical protein	-	-
N646_RS10980	V12G01-10036	putative transcriptional regulator, LysR family protein	-	-
N646_RS10065	V12G01-09472	transcriptional regulator, LysR family protein	-	-
N646_RS10070	V12G01-09477	hypothetical protein	-	-
N646_RS16955	V12G01-04346	putative transcriptional regulator	-	-
N646_RS17315	V12G01-03976	putative transcriptional regulator, GntR family protein	-	-
N646_RS17230	V12G01-04061	hypothetical protein	-	-
N646_RS16600	V12G01-04736	transcriptional regulator MaTT	-	-
N646_RS16300	V12G01-05056	putative transcriptional regulator	-	-
N646_RS01560	V12G01-19497	putative transcriptional regulator	-	-
N646_RS19945	V12G01-01260	putative transcriptional regulator	-	-
N646_RS19610	V12G01-01590	putative transcriptional regulator	-	-
N646_RS22250	V12G01-07108	putative transcriptional regulator	-	-
N646_RS12680	V12G01-12233	putative glycerol metabolism operon regulatory protein	-	-
N646_RS07645	V12G01-21628	putative transcriptional regulator	-	-
N646_RS14955	V12G01-15827	putative transcriptional regulator	-	-
N646_RS05320	V12G01-00774	putative transcriptional regulator	-	-
N646_RS00050	V12G01-00372	putative transcriptional regulator	-	-
N646_RS12465	V12G01-12013	putative transcriptional regulator	-	-
N646_RS18710	V12G01-02525	putative periplasmic solute-binding protein	-	-
N646_RS10840	V12G01-10191	putative transcriptional regulator	-	-
N646_RS04680	V12G01-16512	transcriptional regulator, MarR family protein	-	-
N646_RS18120	V12G01-03150	putative transcription regulator protein	-	-
N646_RS20765	V12G01-08875	putative transcriptional regulator	-	-
N646_RS13620	V12G01-13085	putative transcriptional regulator	-	-
N646_RS19800	V12G01-01410	putative transcriptional regulator	-	-
N646_RS01155	V12G01-19936	putative transcriptional regulator	-	-
N646_RS22400	V12G01-06948	putative transcriptional regulator	-	-
N646_RS04635	V12G01-16557	transcriptional regulator, GntR family protein	-	-
N646_RS10475	V12G01-09893	putative transcriptional regulator	-	

Potative transcriptional regulator					
No46_RS10300	N646_RS00460	V12G01-20653	putative transcriptional regulator	-	_
No46_RS19130	N646_RS19215	V12G01-02005	putative transcriptional regulator, LysR family protein	-	-
N646_RS18450	N646_RS17610	V12G01-03681	putative transcriptional regulator	-	-
N646_RS18450	N646_RS00095	V12G01-21343	putative transcriptional regulator	-	-
N646_RS18430	N646_RS19130	V12G01-02095	hypothetical protein	-	-
N646 RS1825 V12G01-0323	N646_RS18450	V12G01-02795	HTH-type transcriptional regulator eutR	-	-
N646 RS1825 V12G01-16787 Putative repressor protein PhnR Prophage LambdaSo, transcriptional regulator, Cro'Cl Samily protein Prophage LambdaSo, transcriptional regulator, Cro'Cl Samily protein Prophage LambdaSo, transcriptional regulator, Cro'Cl Samily protein Prophage LambdaSo, transcriptional regulator, Cro'Cl Prophage LambdaSo, transcriptional regulator, Cro'Cl Prophage LambdaSo, transcriptional regulator, LysR family protein Prophage LambdaSo, transcriptional regulator Prophage LambdaSo, transcriptional regulator	N646_RS18430	V12G01-02815	putative transcriptional regulator	-	-
V12G01-16722	N646_RS18045	V12G01-03230	putative transcriptional regulator	-	-
N646_RS03705 V12G01-17342 putative transcriptional regulator, LysR family protein - -	N646_RS18225	V12G01-03025	putative repressor protein PhnR	-	-
V12G01-16787		V12G01-16722	prophage LambdaSo, transcriptional regulator, Cro/CI	-	-
N646_RS03705			family protein		
N646 RS03680		V12G01-16787	transcriptional regulator, XRE family protein	-	-
N646_RS03680	N646_RS03775	V12G01-17342	putative transcriptional regulator, LysR familyprotein	-	-
V12G01-0783 Predicted transcriptional regulator - -	N646_RS03705	V12G01-17427	sigma-54 dependent transcriptional regulator	-	-
V12G01-08043 hypothetical protein - -	N646_RS03680	V12G01-17452	transcriptional regulator ExsA	-	-
V12G01-08088 hypothetical protein - -		V12G01-07783	Predicted transcriptional regulator	-	-
N646_RS03280 V12G01-17842 putative transcriptional regulator protein - -		V12G01-08043	hypothetical protein	-	-
N646_RS03280 V12G01-17842 putative transcriptional regulator protein - -		V12G01-08088	hypothetical protein	-	-
N646_RS21360 V12G01-08243 transcriptional regulator, ArsR family protein V12G01-08247 putative transcriptional regulator N646_RS16925 V12G01-04376 transcriptional regulator, MarR family protein N646_RS06080 V12G01-23363 hypothetical protein N646_RS09100 V12G01-14775 transcriptional regulator, LysR family protein N646_RS09750 V12G01-20356 transcriptional regulator for cysteine regulon N646_RS09355 V12G01-15050 hypothetical protein N646_RS16430 V12G01-04926 transcriptional regulator, LysR family protein N646_RS16535 V12G01-04821 putative acetyltransferase N646_RS12615 V12G01-04821 putative acetyltransferase N646_RS15065 V12G01-00662 transcriptional regulator, LysR family protein N646_RS13320 V12G01-0354 transcriptional activator TtdR; Provisional N646_RS13320 V12G01-04416 transcriptional activator HlyU V12G01-04416 transcriptional regulator, AraC family protein N646_RS07310 V12G01-21963 putative transcriptional regulator V12G01-23233 Arac-family transcriptional regulator V12G01-23253 DNA-binding response regulator V12G01-23253 DNA-binding response regulator V12G01-21213 transcriptional regulator, LysR family protein - V12G01-21213 transcriptional regulator - V12G01-21213 transcriptional regulator, LysR family protein		V12G01-08143	hypothetical protein	-	-
V12G01-08247 putative transcriptional regulator	N646_RS03280	V12G01-17842	putative transcriptional regulator protein	-	-
N646_RS16925 V12G01-04376 transcriptional regulator, MarR family protein - - N646_RS06080 V12G01-23363 hypothetical protein - - N646_RS09100 V12G01-14775 transcriptional regulator, LysR family protein - - N646_RS00750 V12G01-20356 transcriptional regulator for cysteine regulon - - N646_RS09355 V12G01-15050 hypothetical protein - - N646_RS16430 V12G01-04926 transcriptional regulator, LysR family protein - - N646_RS16535 V12G01-04821 putative acetyltransferase - - - N646_RS15065 V12G01-12168 transcriptional regulator, LysR family protein - - N646_RS13320 V12G01-13354 transcriptional activator HlyU - - N646_RS07310 V12G01-21963 putative transcriptional regulator, AraC family protein - - N646_RS03430 V12G01-23233 Arac-family transcriptional regulator - - N646_RS03430 V12G01-17692 transcriptional regulator, GntR family pr	N646_RS21360	V12G01-08243	transcriptional regulator, ArsR family protein	-	-
N646_RS06080 V12G01-23363 hypothetical protein - - N646_RS09100 V12G01-14775 transcriptional regulator, LysR family protein - - N646_RS09750 V12G01-20356 transcriptional regulator for cysteine regulon - - N646_RS09355 V12G01-15050 hypothetical protein - - N646_RS16430 V12G01-04926 transcriptional regulator, LysR family protein - - N646_RS16535 V12G01-04821 putative acetyltransferase - - - N646_RS12615 V12G01-12168 transcriptional regulator, LysR family protein - - - N646_RS15065 V12G01-0662 transcriptional activator TtdR; Provisional - - - N646_RS13320 V12G01-13354 transcriptional regulator, AraC family protein - - N646_RS07310 V12G01-21963 putative transcriptional regulator, LysR family protein - - N646_RS03430 V12G01-23233 putative transcriptional regulator - - N646_RS03430 V12G01-17692		V12G01-08247	putative transcriptional regulator	-	-
N646_RS09100 V12G01-14775 transcriptional regulator, LysR family protein N646_RS09750 V12G01-20356 transcriptional regulator for cysteine regulon N646_RS09355 V12G01-15050 hypothetical protein N646_RS16430 V12G01-04926 transcriptional regulator, LysR family protein N646_RS16535 V12G01-04821 putative acetyltransferase N646_RS12615 V12G01-12168 transcriptional regulator, LysR family protein N646_RS15065 V12G01-00662 transcriptional activator TtdR; Provisional N646_RS13320 V12G01-13354 transcriptional activator HlyU V12G01-04416 transcriptional regulator, AraC family protein N646_RS07310 V12G01-21963 putative transcriptional regulator, LysR family protein N646_RS07310 V12G01-23333 Arac-family transcriptional regulator V12G01-23238 putative transcriptional regulator V12G01-23253 DNA-binding response regulator N646_RS03430 V12G01-17692 transcriptional regulator, GntR family protein V12G01-21213 transcriptional regulator V12G01-21228 putative transcriptional regulator, LysR family protein	N646_RS16925	V12G01-04376	transcriptional regulator, MarR family protein	-	-
N646_RS09355 V12G01-20356 transcriptional regulator for cysteine regulon N646_RS09355 V12G01-15050 hypothetical protein N646_RS16430 V12G01-04926 transcriptional regulator, LysR family protein N646_RS16535 V12G01-04821 putative acetyltransferase N646_RS12615 V12G01-12168 transcriptional regulator, LysR family protein N646_RS15065 V12G01-00662 transcriptional activator TtdR; Provisional N646_RS13320 V12G01-13354 transcriptional activator HlyU V12G01-04416 transcriptional regulator, AraC family protein N646_RS07310 V12G01-21963 putative transcriptional regulator, LysR family protein V12G01-23238 putative transcriptional regulator V12G01-23238 DNA-binding response regulator N646_RS03430 V12G01-17692 transcriptional regulator, GntR family protein V12G01-21213 transcriptional regulator, LysR family protein V12G01-21228 putative transcriptional regulator, GntR family protein V12G01-21228 putative transcriptional regulator, LysR family protein	N646_RS06080	V12G01-23363	hypothetical protein	-	-
N646_RS09355 V12G01-15050 hypothetical protein	N646_RS09100	V12G01-14775	transcriptional regulator, LysR family protein	-	-
N646_RS16430 V12G01-04926 transcriptional regulator, LysR family protein N646_RS16535 V12G01-04821 putative acetyltransferase N646_RS12615 V12G01-12168 transcriptional regulator, LysR family protein N646_RS15065 V12G01-00662 transcriptional activator TtdR; Provisional N646_RS13320 V12G01-13354 transcriptional activator HlyU V12G01-04416 transcriptional regulator, AraC family protein N646_RS07310 V12G01-21963 putative transcriptional regulator, LysR family protein V12G01-23333 Arac-family transcriptional regulator V12G01-23253 DNA-binding response regulator N646_RS03430 V12G01-17692 transcriptional regulator, GntR family protein V12G01-21213 transcriptional regulator V12G01-21213 transcriptional regulator, LysR family protein V12G01-21228 putative transcriptional regulator, CntR family protein V12G01-21213 transcriptional regulator, LysR family protein V12G01-21228 putative transcriptional regulator, LysR family protein	N646_RS00750	V12G01-20356	transcriptional regulator for cysteine regulon	-	-
N646_RS16535 V12G01-04821 putative acetyltransferase	N646_RS09355	V12G01-15050	hypothetical protein	-	-
N646_RS12615 V12G01-12168 transcriptional regulator, LysR family protein N646_RS15065 V12G01-00662 transcriptional activator TtdR; Provisional N646_RS13320 V12G01-13354 transcriptional activator HlyU V12G01-04416 transcriptional regulator, AraC family protein N646_RS07310 V12G01-21963 putative transcriptional regulator, LysR family protein V12G01-23333 Arac-family transcriptional regulator V12G01-23238 putative transcriptional regulator V12G01-23253 DNA-binding response regulator N646_RS03430 V12G01-17692 transcriptional regulator, GntR family protein V12G01-21213 transcriptional regulator V12G01-21228 putative transcriptional regulator, LysR family protein V12G01-21228 putative transcriptional regulator, LysR family protein	N646_RS16430	V12G01-04926	transcriptional regulator, LysR family protein	-	-
N646_RS15065 V12G01-00662 transcriptional activator TtdR; Provisional	N646_RS16535	V12G01-04821	putative acetyltransferase	-	-
N646_RS13320 V12G01-13354 transcriptional activator HlyU	N646_RS12615	V12G01-12168	transcriptional regulator, LysR family protein	-	-
V12G01-04416 transcriptional regulator, AraC family protein N646_RS07310 V12G01-21963 putative transcriptional regulator, LysR family protein V12G01-23333 Arac-family transcriptional regulator V12G01-23238 putative transcriptional regulator V12G01-23253 DNA-binding response regulator N646_RS03430 V12G01-17692 transcriptional regulator, GntR family protein V12G01-21213 transcriptional regulator V12G01-21228 putative transcriptional regulator, LysR family protein V12G01-21228 putative transcriptional regulator, LysR family protein	N646_RS15065	V12G01-00662	transcriptional activator TtdR; Provisional	-	-
N646_RS07310 V12G01-21963 putative transcriptional regulator, LysR family protein V12G01-23333 Arac-family transcriptional regulator V12G01-23238 putative transcriptional regulator V12G01-23253 DNA-binding response regulator N646_RS03430 V12G01-17692 transcriptional regulator, GntR family protein V12G01-21213 transcriptional regulator V12G01-21228 putative transcriptional regulator, LysR family protein V12G01-21228 putative transcriptional regulator, LysR family protein	N646_RS13320	V12G01-13354	transcriptional activator HlyU	-	-
V12G01-23333 Arac-family transcriptional regulator V12G01-23238 putative transcriptional regulator V12G01-23253 DNA-binding response regulator V12G01-23253 V12G01-17692 transcriptional regulator, GntR family protein V12G01-21213 transcriptional regulator V12G01-21228 putative transcriptional regulator, LysR family protein		V12G01-04416	transcriptional regulator, AraC family protein	-	-
V12G01-23238 putative transcriptional regulator V12G01-23253 DNA-binding response regulator N646_RS03430 V12G01-17692 transcriptional regulator, GntR family protein V12G01-21213 transcriptional regulator V12G01-21228 putative transcriptional regulator, LysR family protein	N646_RS07310	V12G01-21963	putative transcriptional regulator, LysR family protein	-	-
V12G01-23253 DNA-binding response regulator N646_RS03430 V12G01-17692 transcriptional regulator, GntR family protein V12G01-21213 transcriptional regulator V12G01-21228 putative transcriptional regulator, LysR family protein		V12G01-23333	Arac-family transcriptional regulator	-	-
N646_RS03430 V12G01-17692 transcriptional regulator, GntR family protein V12G01-21213 transcriptional regulator		V12G01-23238	putative transcriptional regulator	-	-
V12G01-21213 transcriptional regulator V12G01-21228 putative transcriptional regulator, LysR family protein		V12G01-23253	DNA-binding response regulator	-	-
V12G01-21228 putative transcriptional regulator, LysR family protein	N646_RS03430	V12G01-17692	transcriptional regulator, GntR family protein	-	-
		V12G01-21213	transcriptional regulator	-	-
V12G01-21248 transcriptional regulator, LysR family protein		V12G01-21228	putative transcriptional regulator, LysR family protein	-	-
		V12G01-21248	transcriptional regulator, LysR family protein	<u>-</u>	<u>-</u>

a, b The accession numbers in the genome sequence of *V. alginolyticus* EPGS and 12G01 strains, respectively.