Supporting Information

Metagenomic-based observations regarding the inhibition effect of viruses on resistance genes in aquaculture system

Jun Wu [a], Jian Lu [b]*, Jianhua Wang [b], Brian J. Boman [c]

[a] College of Materials Science and Chemical Engineering, Harbin Engineering University, Harbin, Heilongjiang 150001, China
[b] Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences, Yantai, Shandong 264003, China
[c] Indian River Research and Education Center, University of Florida, Fort Pierce, FL34945-3138, USA

Submitted to

Frontiers of Environmental Science & Engineering

* Corresponding author: Jian Lu

E-mail address: jlu@yic.ac.cn (J. Lu)

Table S1 Sequencing data of water and residue samples after quality control

	Clean reads	Clean base (bp)
RASW1	112202510	16929455485
RASW2	94554448	14243142048
RASW3	109124078	16445787800
RASW4	114268314	17222477220
RASW5	116872298	17611840076
RASW6	121819454	18363803893
RASW7	115656182	17403105959
RASR1	109156780	16468202850
RASR2	111551852	16829713434

Table S2 Viral genus shown in Fig. 1d

No	Viral genus	No	Viral genus
g1 (bottom)	*Bcep78likevirus*	g41	*D3112likevirus*
g2	*Cp220likevirus*	g42	*D3likevirus*
g3	*Cp8unalikevirus*	g43	*Halolikevirus*
g4	*Felixounalikevirus*	g44	*Hk578likevirus*
g5	*Hapunalikevirus*	g45	*Jerseylikevirus*
g6	*Hpunalikevirus*	g46	*L5likevirus*
g7	*I3likevirus*	g47	*Lambdalikevirus*
g8	*P2likevirus*	g48	*Omegalikevirus*
g9	*Pbunalikevirus*	g49	*P23likevirus*
g10	*Phikzlikevirus*	g50	*Pgonelikevirus*
g11	*Punalikevirus*	g51	*Phic3unalikevirus*
g12	*Schizot4likevirus*	g52	*Phicbklikevirus*
g13	*Spounalikevirus*	g53	*Phie125likevirus*
g14	*T4likevirus*	g54	*Phietalikevirus*
g15	*Twortlikevirus*	g55	*Phijlunalikevirus*
g16	*Viunalikevirus*	g56	*Reylikevirus*
g17	*unclassified Myoviridae*	g57	*Sap6likevirus*
g18	*Bcep22likevirus*	g58	*Sfi1unalikevirus*
g19	*Bppunalikevirus*	g59	*Sfi21dtunalikevirus*
g20	*F116likevirus*	g60	*Skunalikevirus*
g21	*Luz24likevirus*	g61	*T5likevirus*
g22	*N4likevirus*	g62	*Tm4likevirus*
g23	*P22likevirus*	g63	*Tunalikevirus*
g24	*Phi29likevirus*	g64	*Xp10likevirus*
g25	*Phieco32likevirus*	g65	*Yualikevirus*
g26	*Phikmvlikevirus*	g66	*unclassified Siphoviridae*
g27	*Sp6likevirus*	g67	*unclassified Caudovirales*
g28	*T7likevirus*	g68	*Cyprinivirus*
g29	*unclassified Podoviridae*	g69	*Cytomegalovirus*
g30	*Andromedalikevirus*	g70	*Lymphocryptovirus*
g31	*Barnyardlikevirus*	g71	*Mardivirus*
g32	*Bignuzlikevirus*	g72	*Percavirus*
g33	*Bronlikevirus*	g73	*Proboscivirus*
g34	*C5likevirus*	g74	*Rhadinovirus*
g35	*Charlielikevirus*	g75	*Roseolovirus*
g36	*Che8likevirus*	g76	*Scutavirus*
g37	*Che9clikevirus*	g77	*Simplexvirus*
g38	*Chilikevirus*	g78	*Varicellovirus*
g39	*Cjwunalikevirus*	g79	*unclassified Herpesviridae*
g40	*Corndoglikevirus*	g80	*Ostreavirus*
g81	*unclassified Malacoherpesviridae*	g121	*Prasinovirus*

g82	*unclassified Herpesvirales*	g122	*Prymnesiovirus*
g83	*Betalipothrixvirus*	g123	*Raphidovirus*
g84	*Enterovirus*	g124	*unclassified Phycodnaviridae*
g85	*Aviadenovirus*	g125	*Plasmavirus*
g86	*Mastadenovirus*	g126	*Ichnovirus*
g87	*Ascovirus*	g127	*Alphaentomopoxvirus*
g88	*Asfivirus*	g128	*Avipoxvirus*
g89	*Alphabaculovirus*	g129	*Betaentomopoxvirus*
g90	*Betabaculovirus*	g130	*Capripoxvirus*
g91	*Gammabaculovirus*	g131	*Cervidpoxvirus*
g92	*unclassified Baculoviridae*	g132	*Crocodylidpoxvirus*
g93	*Circovirus*	g133	*Leporipoxvirus*
g94	*unclassified Circoviridae*	g134	*Orthopoxvirus*
g95	*Flaviviridae;g__Pestivirus*	g135	*Parapoxvirus*
g96	*Inoviridae;g__Inovirus*	g136	*Suipoxvirus*
g97	*unclassified Inoviridae*	g137	*Yatapoxvirus*
g98	*Chloriridovirus*	g138	*unclassified Poxviridae*
g99	*Iridovirus*	g139	*Gammaretrovirus*
g100	*Lymphocystivirus*	g140	*Lentivirus*
g101	*Megalocytivirus*	g141	*Gammasphaerolipovirus*
g102	*Ranavirus*	g142	*Tectivirus*
g103	*unclassified Iridoviridae*	g143	*Dinodnavirus*
g104	*Marseillevirus*	g144	*Pithovirus*
g105	*unclassified Marseilleviridae*	g145 (top)	*unclassified Viruses*
g106	*Microvirus*		
g107	*Pequenovirus*		
g108	*unclassified Microviridae*		
g109	*Cafeteriavirus*		
g110	*Mimivirus*		
g111	*unclassified Mimiviridae*		
g112	*Babuvirus*		
g113	*Whispovirus*		
g114	*unclassified Nudiviridae*		
g115	*Gammapapillomavirus*		
g116	*Protoparvovirus*		
g117	*unclassified Parvoviridae*		
g118	*Chlorovirus*		
g119	*Coccolithovirus*		
g120	*Phaeovirus*		

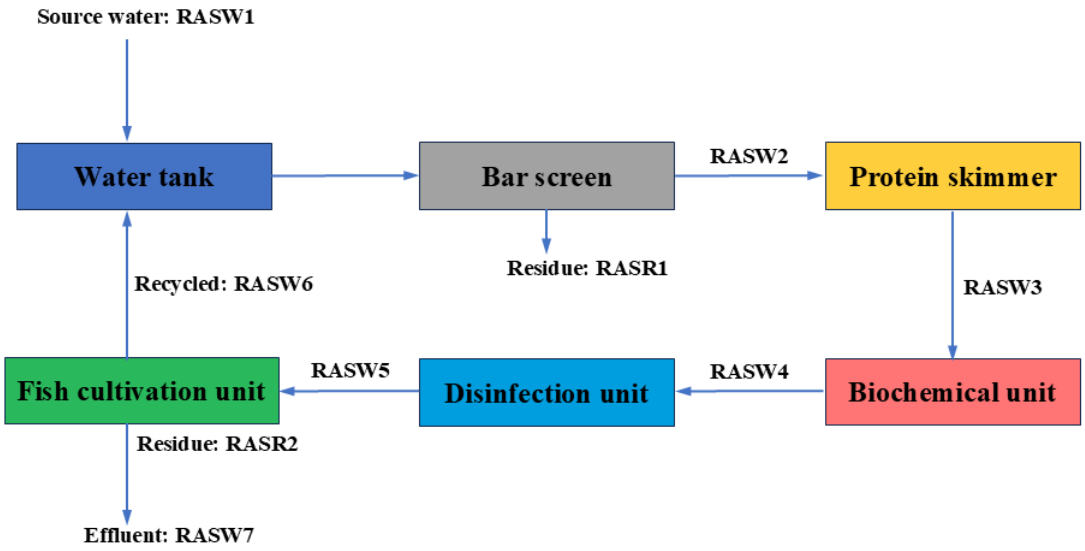

Fig. S1. Flow chart of RAS and the sampling sketch.