



**Supplementary Fig. S1.** Gradient of annealing temperatures for primer HCB-1. A) RAPD-PCR fingerprints of whole viral assemblages from a single Delaware soil sample across a gradient of annealing temperatures, 36 to 48° C. Lanes marked "M" are marker lanes; Lane marked "-" is no-template control. B) Hierarchical clustering dendrogram (UPGMA) of Dice's similarities between banding patterns at different annealing temperatures. Similarity values are shown at each node.

Supplementary Table S2. Viral metagenome libraries used in the design of RAPD-PCR primers. Detailed information on the viral metagenome libraries used in RAPD-PCR primer design can be found at <http://virome.dbi.udel.edu>

Environment	Habitat	Location	Viral libraries	Reference
Water	Estuary	Chesapeake Bay	CBAY_Bench	(Bench et al, 2007)
			CBAY_JCVI CBAY_IND-01 CBAY_IND02 CBAYVIR01 CBAYVIR02 CBAYVIR03 CBAYVIR04	
Extreme Environments	Ocean	Dry Tortugas [Gulf of Mexico]	DRYTV1R015	(Schoenfeld et al, 2008)
		Gulf of Maine	GOMV1R04	
Extreme Environments	Hot springs	Bear Paw hot spring [Yellowstone National Park]	HOTSPR_BP	(Schoenfeld et al, 2008)
	Deep Sea	Octopus hot spring [Yellowstone National Park]	HOTSPR_05	(Schoenfeld et al, 2008)
Sludge	Human sewage sludge	H.C. Morgan water pollution control facility [Auburn]	VENT_GWAB	(Parsley et al, 2010)
			VENT_GWAC VENT_GWAD	
Soil	Agricultural	Matapeake soil [Delaware]	SLUDGE_AS	(Parsley et al, 2010)
		Wisconsin soil [Wisconsin]	SLUDGE_IN	
Soil	Desert	Mojave Desert [California]	SOIL_DE	(Fierer et al, 2007)
	Prairie	Konza Prairie [Kansas]	SOIL_WI	
	Forest	Manu National Park [Peru]	SOIL_JT	
Soil	Forest	Manu National Park [Peru]	SOIL_KS	(Fierer et al, 2007)
			SOIL_PERU	(Fierer et al, 2007)

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