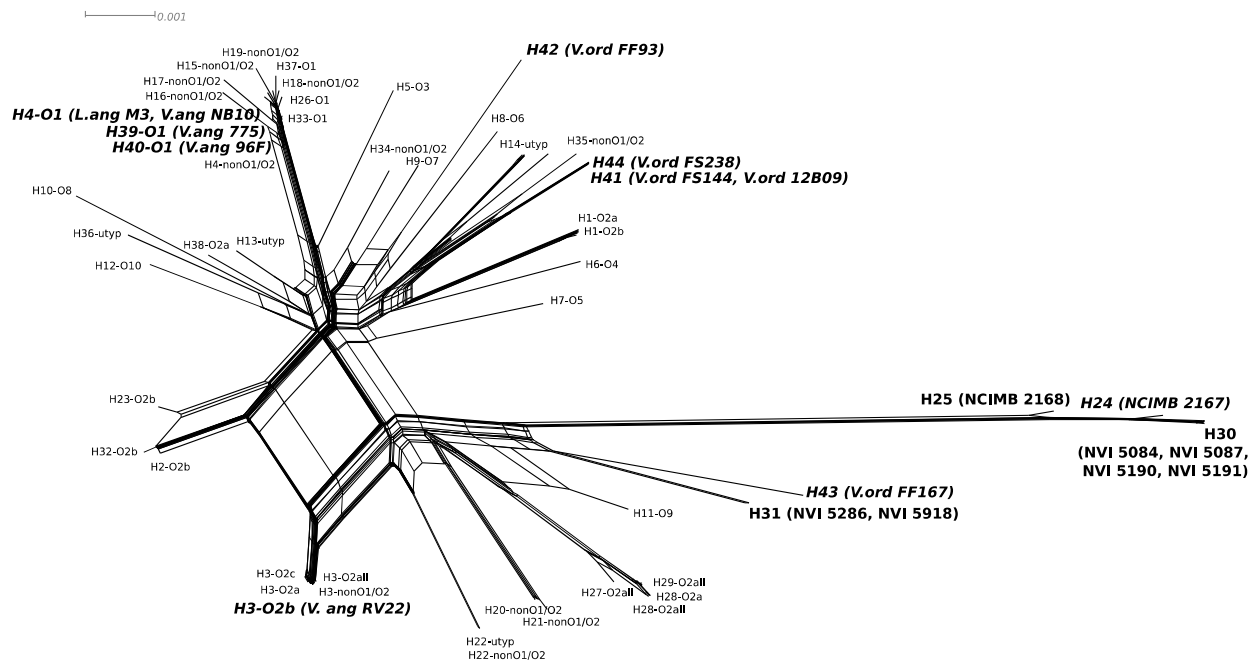


Supplementary figure 1. An eburst_{v3} derived diagram showing “a population snapshot” of 103 *Vibrio anguillarum* (and 13 previously *Vibrio ordalii* identified) isolates from diverse origins (fish host species and countries). The isolates comprise 44 haplotypes (HTs) either as 27 singletons or belonging to 5 clonal complexes (CCs). The stringent group definition is 7 out of 8 identical loci and the clonal complexes (CC-HT2, CC-HT4, CC-HT28) are named after the predicted HT founder or otherwise the HT with the lowest number (CC-HT20 and CC-HT24). Seven singletons comprises more than one isolate - HT1 (4 isolates), HT3 (18 isolates), HT14 (3 isolates), HT22 (2 isolates), HT30 (4 isolates), HT31 (2 isolates) and HT41 (2 isolates).



Supplementary figure 2. A phylogenetic network, made with the Splits tree4 neighbor-net algorithm applying the uncorrected p-distance method, based on 5208 bp concatenated partial sequences (from 8 loci) in 103 *Vibrio anguillarum* (and 13 previously *Vibrio ordalii* identified) isolates from diverse origins (fish host species and countries). All observed haplotype (H)-serotype combinations are represented. The full-genome sequenced *V. anguillarum* strains and the 13 isolates previously identified as *V. ordalii* are highlighted in bold. The reticulated structure between the 44 haplotypes is indicative of horizontal gene transfer/recombination. Likely recombination was supported by the implemented PHI test.

name	host	species	country	ATatpA	ATftsZ	ATgapA	ATgyrB	ATmreB	ATpyrH	ATrpoA	ATtopA	sum AT	HT
I14_02	Gadus morhua	Scotland		1	1	2	2	2	2	2	1	11222221	2
820723	unknown	Denmark		1	1	1	1	1	1	1	1	11111111	1
860708_6_1	Oncorhynchus mykiss	Denmark		1	2	2	2	2	3	3	1	12222331	3
860813_17_1b	O mykiss	Denmark		1	2	2	2	2	3	3	1	12222331	3
910614_1_1	Gadus morhua	Denmark		1	2	2	2	2	3	3	1	12222331	3
ATCC14181	Salmo trutta	UK		1	2	2	2	2	3	3	1	12222331	3
ATCC43305	Oncorhynchus mykiss	Denmark		2	3	3	3	3	4	3	2	23333432	4
ATCC43306	Gadus morhua	Denmark		1	1	1	1	1	1	1	1	11111111	1
ATCC43307	Oncorhynchus mykiss	Denmark		2	4	4	4	4	5	3	3	24444533	5
ATCC43308	Gadus morhua	Denmark		1	5	5	5	5	6	3	4	15555634	6
ATCC43309	Gadus morhua	Denmark		3	6	6	6	6	1	1	5	36166115	7
ATCC43310	Gadus morhua	Denmark		4	6	6	7	7	2	4	4	46677244	8
ATCC43311	Anguilla anguilla	Denmark		5	7	2	8	8	7	3	6	57288736	9
ATCC43312	Gadus morhua	Denmark		1	8	7	9	7	8	5	7	18797857	10
ATCC43313	Gadus morhua	Denmark		1	9	2	10	9	2	5	8	192109258	11
ATCC43314	Gadus morhua	Denmark		6	6	8	8	10	8	3	9	668810839	12
HI21412	Gadus morhua	Norway		7	3	2	11	11	9	3	1	7321111931	13
HI21413	Gadus morhua	Norway		8	3	2	12	12	7	3	4	8321212734	14
HI21414	Gadus morhua	Norway		8	3	2	12	12	7	3	4	8321212734	14
HI21429	Gadus morhua	Norway		8	3	2	12	12	7	3	4	8321212734	14
IU_01	Dicentrarchus labrax	Turkey		2	10	3	3	3	4	3	2	210333432	15
IU_02	Dicentrarchus labrax	Turkey		2	3	3	9	13	4	3	2	233913432	16
IU_03	Dicentrarchus labrax	Turkey		1	2	2	2	2	3	3	1	12222331	3
IU_04	Mugil cephalus	Turkey		2	3	3	3	3	4	3	2	23333432	4
IU_05	Dicentrarchus labrax	Turkey		2	3	3	3	3	4	3	2	23333432	4
IU_07	Dicentrarchus labrax	Turkey		9	11	3	13	3	4	3	2	9113133432	17
IU_08	Dicentrarchus labrax	Turkey		2	3	3	3	3	4	3	2	23333432	4
IU_10	Dicentrarchus labrax	Turkey		2	3	3	14	3	4	3	2	233143432	18
IU_11	Thunnus thynnus	Turkey		2	3	3	3	3	4	3	2	23333432	4
IU_12	Dicentrarchus labrax	Turkey		2	3	3	3	3	10	3	10	233310310	19
LMG13224	Rotifer	Greece		10	12	6	15	14	1	6	11	1012615141611	20
LMG13225	Rotifer	Greece		10	12	6	15	14	1	6	11	1012615141611	20
LMG13227	Sparus aurata	Greece		10	12	6	16	14	1	6	11	1012616141611	21
N3A3_2	Gadus morhua	Scotland		11	2	9	17	15	11	3	4	112917151134	22
N8D10_8	Gadus morhua	Scotland		11	2	9	17	15	11	3	4	112917151134	22
NCIMB1873	Oncorhynchus tshawytscha	USA		2	3	3	3	3	4	3	2	23333432	4
NCIMB2129	Oncorhynchus mykiss	Norway		2	3	3	3	3	4	3	2	23333432	4
NCIMB2130	Pollachius virens	Norway		1	1	2	2	2	2	2	4	11222224	23
NCIMB2131	Oncorhynchus mykiss	Norway		2	3	3	3	3	4	3	2	23333432	4
NCIMB2132	Oncorhynchus mykiss	Norway		2	3	3	3	3	4	3	2	23333432	4
NCIMB2133	Pollachius virens	Norway		1	1	2	2	2	2	2	1	11222221	2
NCIMB2167	Oncorhynchus kisutch	USA		12	13	10	18	16	12	7	12	121310181612712	24
NCIMB2168	Oncorhynchus kisutch	USA		12	13	10	18	12	7	12	12	1213101812712	25
NCIMB6	Gadus morhua	Norway		1	1	1	1	1	1	1	1	11111111	1
NVI3379	Scophthalmus maximus	Norway		1	2	2	2	2	3	3	1	12222331	3
NVI4299	Gadus morhua	Norway		1	1	2	2	2	2	2	1	11222221	2
NVI4317	Oncorhynchus mykiss	Norway		2	3	3	3	3	4	3	13	233334313	26
NVI4351	Gadus morhua	Norway		13	14	2	10	17	2	8	1	131421017281	27
NVI4353	Gadus morhua	Norway		1	1	2	2	2	2	2	1	11222221	2
NVI4590	Gadus morhua	Norway		1	1	2	2	2	2	2	1	11222221	2
NVI4591	Salmo salar	Norway		1	2	2	2	2	3	3	1	12222331	3
NVI4601	Salmo salar	Norway		1	2	2	2	2	3	3	1	12222331	3
NVI4614	Pollachius virens	Norway		1	1	2	2	2	2	2	1	11222221	2
NVI4631	Salmo salar	Norway		13	14	2	10	17	2	8	14	1314210172814	28
NVI4750	Gadus morhua	Norway		1	1	2	2	2	2	2	1	11222221	2
NVI4792	Gadus morhua	Norway		1	2	2	2	2	3	3	1	12222331	3
NVI4845	Gadus morhua	Norway		13	14	2	10	17	2	3	14	1314210172314	29
NVI5022	Gadus morhua	Norway		13	14	2	10	17	2	8	14	1314210172814	28
NVI5031	Gadus morhua	Norway		1	2	2	2	2	3	3	1	12222331	3
NVI5034	Gadus morhua	Norway		1	2	2	2	2	3	3	1	12222331	3
NVI5039	Gadus morhua	Norway		13	14	2	10	17	2	3	14	1314210172314	29
NVI5042	Gadus morhua	Norway		1	1	2	2	2	2	2	1	11222221	2
NVI5043	Gadus morhua	Norway		1	1	2	2	2	2	2	1	11222221	2
NVI5056	Gadus morhua	Norway		13	14	2	10	17	2	3	14	1314210172314	29
NVI5064	Pollachius virens	Norway		1	2	2	2	2	3	3	1	12222331	3
NVI5065	Gadus morhua	Norway		1	2	2	2	2	3	3	1	12222331	3
NVI5067	Gadus morhua	Norway		1	1	2	2	2	2	2	1	11222221	2
NVI5070	Oncorhynchus mykiss	Norway		1	2	2	2	2	3	3	1	12222331	3
NVI5084	Salmo salar	Chile		14	13	10	19	18	12	7	15	141310191812715	30
NVI5087	Salmo salar	Chile		14	13	10	19	18	12	7	15	141310191812715	30
NVI5106	Gadus morhua	Norway		1	1	2	2	2	2	2	1	11222221	2
NVI5121	Gadus morhua	Norway		13	14	2	10	17	2	3	14	1314210172314	29
NVI5180	Oncorhynchus mykiss	Norway		2	3	3	3	3	4	3	2	23333432	4
NVI5190	Salmo salar	Chile		14	13	10	19	18	12	7	15	141310191812715	30
NVI5191	Salmo salar	Chile		14	13	10	19	18	12	7	15	141310191812715	30
NVI5286	Gadus morhua	Norway		15	15	11	20	19	1	9	16	15151120191916	31
NVI5356	Gadus morhua	Ireland		1	1	2	2	2	2	2	1	11222221	2
NVI5543	Gadus morhua	Norway		1	1	2	2	2	2	2	1	11222221	2

Table continues on next page

name_host_species_country	ATatpA	ATftsZ	ATgapA	ATgyrB	ATmreB	ATpyrH	ATrpoA	ATtopA	sum AT	HT
NVI5546_Gadus_morhua_Norway	1	1	2	2	2	2	2	1	1 1 2 2 2 2 1	2
NVI5589_Salmo_salar_Norway	2	3	3	3	3	4	3	2	2 3 3 3 3 4 3 2	4
NVI5918_Gadus_morhua_Norway	15	15	11	20	19	1	9	16	15 15 11 20 19 1 9 16	31
NVI6036_Gadus_morhua_Norway	13	14	2	10	17	2	3	14	13 14 2 10 17 2 3 14	29
NVI6037_Gadus_morhua_Norway	13	14	2	10	17	2	3	14	13 14 2 10 17 2 3 14	29
NVI6078_Gadus_morhua_Norway	1	1	2	2	2	2	2	1	1 1 2 2 2 2 1	2
NVI6099_Gadus_morhua_Norway	1	1	2	21	2	2	2	1	1 1 2 21 22 2 1	32
NVI6100_Gadus_morhua_Norway	1	1	2	2	2	2	2	1	1 1 2 2 2 2 1	2
NVI6168_Gadus_morhua_Norway	1	1	2	2	2	2	2	1	1 1 2 2 2 2 1	2
NVI6243_Gadus_morhua_Norway	1	1	2	2	2	2	2	1	1 1 2 2 2 2 1	2
NVI6258_Oncorhynchus_mykiss_Norway	2	3	3	3	3	4	3	17	2 3 3 3 3 4 3 17	33
NVI6273_Gadus_morhua_Norway	1	1	2	2	2	2	2	1	1 1 2 2 2 2 1	2
NVI6331_Gadus_morhua_Ireland	1	1	2	2	2	2	2	1	1 1 2 2 2 2 1	2
NVI6396_Gadus_morhua_Norway	1	1	2	2	2	2	2	1	1 1 2 2 2 2 1	2
NVI6398_Gadus_morhua_Norway	1	1	2	2	2	2	2	1	1 1 2 2 2 2 1	2
NVI6401_Gadus_morhua_Norway	1	2	2	2	2	3	3	1	1 2 2 2 3 3 1	3
NVI6404_Gadus_morhua_Norway	1	2	2	2	2	3	3	1	1 2 2 2 3 3 1	3
NVI6409_Gadus_morhua_Norway	13	14	2	10	17	2	3	14	13 14 2 10 17 2 3 14	29
NVI6419_Gadus_morhua_Norway	1	1	2	2	2	2	2	1	1 1 2 2 2 2 1	2
VIB266A_Rotifer_Australia	5	3	2	22	20	9	3	18	5 3 2 22 20 9 3 18	34
VIB266B_Rotifer_Australia	2	3	3	3	3	4	3	2	2 3 3 3 3 4 3 2	4
Se_1.1_Sediment_Denmark	1	2	2	2	2	3	3	1	1 2 2 2 3 3 1	3
VIB127_Oncorhynchus_mykiss_Italy	1	3	12	23	21	13	4	4	1 3 12 23 21 13 4 4	35
VIB149_Water_Denmark	9	3	13	24	22	8	3	19	9 3 13 24 22 8 3 19	36
VIB253_Oncorhynchus_mykiss_Australia	16	3	3	3	3	4	10	2	16 3 3 3 3 4 10 2	37
VIB605_Plecoglossus_altivelis_Japan	2	3	3	3	3	4	3	2	2 3 3 3 3 4 3 2	4
VIB64_Scopthalmus_maximus_Spain	2	3	3	3	3	4	3	2	2 3 3 3 3 4 3 2	4
VIB77_Plecoglossus_altivelis_Japan	1	16	14	25	23	9	3	1	1 16 14 25 23 9 3 1	38
ATCC68554Vang775_O_mykiss_USA	2	17	3	3	3	4	3	2	2 17 3 3 3 4 3 2	39
NBI0Vang_Oncorhynchus_mykiss_Sweden	2	3	3	3	3	4	3	2	2 3 3 3 3 4 3 2	4
M3Lang_Paralichthys_olivaceus_China	2	3	3	3	3	4	3	2	2 3 3 3 3 4 3 2	4
96FVang_Morone_saxialis_USA	17	3	3	3	3	4	3	2	17 3 3 3 3 4 3 2	40
RV22Vang_Scopthalmus_maximus_Spain	1	2	2	2	2	3	3	1	1 2 2 2 3 3 1	3
I2B09Vord_filtered_seawater_USA	18	18	5	12	24	14	3	4	18 18 5 12 24 14 3 4	41
FF93Vord_filtered_seawater_USA	19	19	15	26	25	15	4	20	19 19 15 26 25 15 4 20	42
FF167Vord_filtered_seawater_USA	20	9	11	27	26	16	11	14	20 9 11 27 26 16 11 14	43
FS144Vord_filtered_seawater_USA	18	18	5	12	24	14	3	4	18 18 5 12 24 14 3 4	41
FS238Vord_filtered_seawater_USA	18	20	2	12	21	17	5	21	18 20 2 12 21 17 5 21	44

Supplementary table 1. All allele types (ATs) and haplotypes (HTs) assigned to the 116 *Vibrio anguillarum*-related isolates examined in the study.