

Supplementary material to the manuscript entitled: “Unraveling role of salinity on anammox-based nitrogen removal process via data analysis from literature and experimental validation”

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Table S1 Summary of data of literatures for ANN analysis and Spearman correlation analysis

Literature	Salinity %	NRR kg/(m ³ ·d)	NH ₄ ⁺ -N _{inf} mg/L	NO ₂ ⁻ -N _{inf} mg/L	TN _{inf} mg/L	NH ₄ ⁺ -N _{eff} mg/L	NO ₂ ⁻ -N _{eff} mg/L	NO ₃ ⁻ -N _{eff} mg/L	COD mg/L	HRT h	pH	Temperature ℃
Wu et al.2019¹	0.50	1.348	241.180	265.275	506.456	1.108	5.258	25.995	0	8.0	8	35
	0.50	1.531	274.773	275.476	550.249	7.704	7.000	23.797	0	8.0	8	35
	0.50	1.450	255.075	267.474	522.548	9.902	6.579	22.302	0	8.0	8	35
	0.50	1.672	274.069	286.469	560.538	2.603	5.437	27.402	0	8.0	8	35
	0.50	1.429	249.183	270.376	519.559	15.003	7.000	31.799	0	8.0	8	35
	1.00	1.510	244.874	260.175	505.049	3.307	4.802	25.204	0	8.0	8	35
	1.00	1.450	284.270	281.368	565.638	61.698	5.763	31.799	0	8.0	8	35
	1.00	1.510	257.977	275.476	533.453	15.003	6.851	28.897	0	8.0	8	35
	1.00	1.531	264.572	285.677	550.249	28.897	7.000	21.598	0	8.0	8	35
	1.50	1.612	284.974	277.675	562.648	8.407	7.482	27.402	0	8.0	8	35
	1.50	1.469	251.381	267.474	518.855	2.603	7.704	30.304	0	8.0	8	35
	1.50	1.510	255.075	263.780	518.855	2.603	9.643	31.095	0	8.0	8	35
	1.50	1.653	270.376	301.770	572.146	2.603	12.101	30.304	0	8.0	8	35
	1.50	1.591	306.870	252.876	559.746	3.307	10.643	36.196	0	8.0	8	35
	1.50	1.591	290.778	257.273	548.051	23.797	8.407	39.801	0	8.0	8	35
	1.50	1.653	265.979	276.180	542.159	1.900	6.749	26.699	0	8.0	8	35
	1.50	1.491	263.077	318.566	581.643	12.804	4.802	30.304	0	8.0	8	35
	1.50	1.410	256.482	260.175	516.657	14.299	7.000	33.997	0	8.0	8	35
	1.50	1.572	236.080	265.979	502.059	1.108	15.706	30.304	0	8.0	8	35
	2.00	1.429	260.879	274.069	534.948	13.596	19.400	31.799	0	8.0	8	35
	2.00	1.491	235.376	280.577	515.953	25.204	33.294	12.804	0	8.0	8	35
	2.00	1.248	234.673	285.677	520.350	1.108	138.2924	6.297	0	8.0	8	35
	2.00	0.942	209.083	257.273	466.356	21.598	189.3846	0.000	0	8.0	8	35

	2.00	0.497	247.776	313.466	561.241	114.989	109.0968	0.000	0	8.0	8	35
	2.00	1.045	241.180	302.473	543.654	128.795	128.795	0.000	0	8.0	8	35
	2.00	0.740	262.373	271.079	533.453	67.590	140.4908	0.000	0	8.0	8	35
	2.00	0.659	263.077	235.376	498.453	108.393	144.1842	0.000	0	8.0	8	35
	2.00	0.861	297.373	247.072	544.445	114.989	174.7868	0.000	0	8.0	8	35
	2.00	0.699	275.476	267.474	542.950	133.192	196.6835	0.000	0	8.0	8	35
	2.00	0.275	280.577	314.169	594.746	104.788	214.9747	0.000	0	8.0	8	35
	2.00	0.415	188.681	247.072	435.753	154.385	200.3769	0.000	0	8.0	8	35
Ge et al.2019²	0.5	0.024	185.813	0.000	185.813	134.131	0.000	4.193	0	48	7.8	31
	0.5	0.037	185.813	0.000	185.813	106.259	0.000	6.450	0	48	7.8	31
	0.5	0.050	192.132	0.000	192.132	85.552	0.000	6.450	0	48	7.8	31
	0.5	0.049	184.459	0.000	184.459	76.581	0.000	10.004	0	48	7.8	31
	0.5	0.071	191.230	0.000	191.230	28.454	0.000	19.934	0	48	7.8	31
	0.5	0.062	184.910	0.000	184.910	43.293	0.000	18.129	0	48	7.8	31
	0.5	0.067	188.521	0.000	188.521	35.894	0.000	19.032	0	48	7.8	31
	0.5	0.072	190.778	0.000	190.778	28.905	0.000	17.678	0	48	7.8	31
	0.5	0.071	184.008	0.000	184.008	19.483	0.000	22.135	0	48	7.8	31
	0.5	0.071	187.167	0.000	187.167	25.295	0.000	19.483	0	48	7.8	31
	0.5	0.064	184.008	0.000	184.008	38.779	0.000	17.678	0	48	7.8	31
	0.5	0.068	182.202	0.000	182.202	25.295	0.000	20.386	0	48	7.8	31
	0.5	0.068	183.105	0.000	183.105	26.891	0.000	19.934	0	48	7.8	31
	1	0.071	183.105	0.000	183.105	27.100	0.000	14.969	0	48	7.8	31
	1	0.066	180.848	0.000	180.848	30.260	0.000	19.032	0	48	7.8	31
	1	0.074	189.875	0.000	189.875	27.100	0.000	15.421	0	48	7.8	31
	1	0.071	188.973	0.000	188.973	30.711	0.000	17.226	0	48	7.8	31
	1	0.072	184.910	0.000	184.910	22.135	0.000	19.032	0	48	7.8	31

1	0.067	182.202	0.000	182.202	28.454	0.000	19.483	0	48	7.8	31
1	0.072	188.521	0.000	188.521	28.454	0.000	16.775	0	48	7.8	31
1	0.068	180.848	0.000	180.848	26.894	0.000	18.129	0	48	7.8	31
1	0.066	175.037	0.000	175.037	25.746	0.000	18.129	0	48	7.8	31
1	0.074	183.556	0.000	183.556	22.586	0.000	13.164	0	48	7.8	31
1	0.067	180.397	0.000	180.397	32.641	0.000	13.075	0	48	7.8	31
1.5	0.067	183.556	0.000	183.556	33.764	0.000	14.969	0	48	7.8	31
1.5	0.067	186.716	0.000	186.716	35.620	0.000	16.324	0	48	7.8	31
1.5	0.064	180.848	0.000	180.848	35.620	0.000	17.678	0	48	7.8	31
1.5	0.069	186.264	0.000	186.264	30.711	0.000	17.678	0	48	7.8	31
1.5	0.069	181.751	0.000	181.751	24.843	0.000	19.483	0	48	7.8	31
1.5	0.071	182.654	0.000	182.654	23.038	0.000	17.678	0	48	7.8	31
1.5	0.070	182.654	0.000	182.654	25.746	0.000	17.678	0	48	7.8	31
1.5	0.067	188.070	0.000	188.070	38.328	0.000	16.462	0	48	7.8	31
2	0.064	183.105	0.000	183.105	38.779	0.000	15.421	0	48	7.8	31
2	0.072	186.264	0.000	186.264	24.843	0.000	17.678	0	48	7.8	31
2	0.069	183.105	0.000	183.105	28.003	0.000	17.226	0	48	7.8	31
2	0.073	185.813	0.000	185.813	23.038	0.000	16.775	0	48	7.8	31
2	0.053	185.813	0.000	185.813	51.361	8.650	19.483	0	48	7.8	31
3	0.052	181.751	0.000	181.751	55.875	5.492	16.775	0	48	7.8	31
3	0.059	182.654	0.000	182.654	44.647	2.387	18.580	0	48	7.8	31
3	0.061	186.264	0.000	186.264	44.647	1.485	18.580	0	48	7.8	31
3	0.058	186.716	0.000	186.716	44.647	10.456	14.969	0	48	7.8	31
3	0.039	181.299	0.000	181.299	83.747	5.741	13.615	0	48	7.8	31
3	0.045	186.264	0.000	186.264	82.844	1.936	11.358	0	48	7.8	31
3	0.050	181.751	0.000	181.751	67.103	0.582	14.067	0	48	7.8	31

3	0.053	181.751	0.000	181.751	59.937	0.582	15.421	0	48	7.8	31
3	0.057	182.654	0.000	182.654	55.423	1.033	12.713	0	48	7.8	31
3	0.061	186.264	0.000	186.264	44.647	3.290	17.226	0	48	7.8	31
3	0.067	183.556	0.000	183.556	29.357	3.742	17.226	0	48	7.8	31
3	0.066	183.556	0.000	183.556	32.641	2.853	16.497	0	48	7.8	31
3	0.065	183.105	0.000	183.105	35.620	1.973	15.421	0	48	7.8	31
3	0.072	184.910	0.000	184.910	24.392	1.485	14.969	0	48	7.8	31
3	0.068	182.202	0.000	182.202	22.693	1.581	21.232	0	48	7.8	31
3	0.074	184.459	0.000	184.459	19.483	1.793	14.518	0	48	7.8	31
3	0.066	180.848	0.000	180.848	27.641	1.821	19.032	0	48	7.8	31
3	0.068	184.910	0.000	184.910	30.541	1.905	16.324	0	48	7.8	31
5	0.049	185.362	0.000	185.362	70.262	1.936	14.518	0	48	7.8	31
5	0.062	192.132	0.000	192.132	55.875	1.936	10.456	0	48	7.8	31
5	0.065	185.813	0.000	185.813	39.682	2.387	13.164	0	48	7.8	31
5	0.068	182.202	0.000	182.202	28.905	2.839	13.615	0	48	7.8	31
5	0.074	188.521	0.000	188.521	22.135	5.691	13.164	0	48	7.8	31
5	0.049	183.105	0.000	183.105	63.548	13.615	8.650	0	48	7.8	31
5	0.059	188.070	0.000	188.070	51.361	7.747	10.471	0	48	7.8	31
5	0.064	189.875	0.000	189.875	39.231	9.102	14.067	0	48	7.8	31
5	0.064	186.716	0.000	186.716	36.974	5.998	14.969	0	48	7.8	31
5	0.063	188.973	0.000	188.973	40.133	9.102	13.615	0	48	7.8	31
5	0.065	182.654	0.000	182.654	34.773	4.644	14.067	0	48	7.8	31
5	0.057	185.362	0.000	185.362	52.264	9.102	10.456	0	48	7.8	31
5	0.049	184.459	0.000	184.459	43.744	28.905	13.164	0	48	7.8	31
5	0.052	188.973	0.000	188.973	54.069	19.934	10.907	0	48	7.8	31
5	0.038	183.556	0.000	183.556	85.552	12.713	8.650	0	48	7.8	31

	5	0.035	189.424	0.000	189.424	98.586	12.975	7.296	0	48	7.8	31
	5	0.033	181.751	0.000	181.751	94.975	13.164	6.845	0	48	7.8	31
Huang et al. 2021³	0.71	0.126	520.798	0.000	520.798	235.953	24.864	8.795	201.5	48	8	22
	0.71	0.148	521.963	0.000	521.963	233.158	26.118	10.197	203.7	48	8	22
	0.71	0.169	523.963	0.000	523.963	188.051	32.751	14.880	206.0	48	8	22
	0.71	0.178	534.449	0.000	534.449	168.775	37.433	11.524	196.9	48	8	22
	0.71	0.169	496.491	0.000	496.491	149.577	36.107	7.544	187.1	48	8	22
	0.71	0.196	504.981	0.000	504.981	140.915	40.711	17.533	188.9	48	8	22
	0.71	0.166	496.491	0.000	496.491	114.381	40.087	11.524	189.6	48	8	22
	0.71	0.196	513.472	0.000	513.472	126.321	39.384	12.227	235.3	48	8	22
	0.71	0.202	504.981	0.000	504.981	92.452	44.691	18.860	167.4	48	8	22
	0.71	0.214	504.981	0.000	504.981	65.294	42.740	10.900	173.6	48	8	22
	0.71	0.223	504.893	0.000	504.893	52.798	41.897	12.908	175.8	48	8	22
	0.71	0.223	504.981	0.000	504.981	49.998	40.711	14.880	177.5	48	8	22
	0.71	0.221	508.977	0.000	508.977	55.305	46.018	6.217	179.8	48	8	22
	0.71	0.221	513.472	0.000	513.472	40.711	46.018	4.891	178.8	48	8	22
	0.71	0.211	483.505	0.000	483.505	36.107	48.047	8.246	172.6	48	8	22
	0.71	0.217	479.509	0.000	479.509	26.118	45.394	9.573	169.6	48	8	22
	0.71	0.227	479.509	0.000	479.509	31.424	44.691	9.573	165.5	48	8	22
	0.71	0.227	496.491	0.000	496.491	19.484	48.671	14.178	162.9	48	8	22
	0.71	0.227	488.000	0.000	488.000	16.831	46.720	10.197	159.4	48	8	22
	0.71	0.236	483.505	0.000	483.505	13.553	44.691	10.197	156.6	48	8	22
	0.71	0.245	508.977	0.000	508.977	10.197	44.691	6.217	151.2	48	8	22
	0.71	0.242	517.468	0.000	517.468	10.197	47.345	4.266	165.8	48	8	22
	0.71	0.242	513.472	0.000	513.472	11.524	48.047	6.920	180.9	24	8	22
	0.71	0.479	513.472	0.000	513.472	12.851	50.700	2.940	185.8	24	8	22

0.71	0.482	555.926	0.000	555.926	42.795	46.720	10.900	192.8	24	8	22
0.71	0.512	559.922	0.000	559.922	45.394	46.720	11.524	204.0	24	8	22
0.71	0.500	559.922	0.000	559.922	36.107	51.325	3.564	215.7	24	8	22
0.71	0.491	559.922	0.000	559.922	42.740	50.700	6.217	226.9	24	8	22
0.71	0.506	525.959	0.000	525.959	38.953	51.794	6.584	201.9	24	8	22
0.71	0.482	525.959	0.000	525.959	36.731	53.354	6.920	188.9	24	8	22
0.71	0.494	534.449	0.000	534.449	28.771	53.354	13.553	183.6	24	8	22
0.71	0.475	530.454	0.000	530.454	34.780	48.671	4.891	184.7	24	8	22
0.71	0.482	530.454	0.000	530.454	25.493	52.027	10.197	188.9	24	8	22
0.71	0.485	530.454	0.000	530.454	28.771	56.007	14.880	194.9	24	8	22
0.71	0.512	534.449	0.000	534.449	20.187	49.998	6.217	198.0	24	8	22
0.71	0.530	568.412	0.000	568.412	12.851	52.651	11.524	200.3	24	8	22
0.71	0.515	551.431	0.000	551.431	13.794	51.325	3.564	188.9	24	8	22
0.71	0.500	559.922	0.000	559.922	14.178	56.631	6.217	180.3	24	8	22
0.71	0.485	508.977	0.000	508.977	9.573	52.027	9.573	176.3	24	8	22
0.71	0.491	521.963	0.000	521.963	9.798	54.680	2.940	171.0	24	8	22
0.71	0.491	519.893	0.000	519.893	10.358	58.660	4.891	168.0	12	8	22
0.71	0.795	517.468	0.000	517.468	10.900	56.789	7.544	165.0	12	8	22
0.71	0.828	454.037	0.000	454.037	40.711	54.680	2.940	162.9	12	8	22
0.71	0.813	458.033	0.000	458.033	32.751	46.720	8.871	161.7	12	8	22
0.71	0.776	471.018	0.000	471.018	39.384	46.018	5.593	169.3	12	8	22
0.71	0.779	432.560	0.000	432.560	33.453	44.691	6.908	177.0	12	8	22
0.71	0.770	445.546	0.000	445.546	25.493	46.720	13.553	177.0	12	8	22
0.71	0.788	437.055	0.000	437.055	25.975	36.731	4.891	178.8	12	8	22
0.71	0.776	434.892	0.000	434.892	25.190	40.984	6.798	170.0	12	8	22
0.71	0.797	428.565	0.000	428.565	26.820	46.720	7.544	165.8	12	8	22

0.71	0.788	437.055	0.000	437.055	18.158	41.414	10.900	164.9	12	8	22
0.71	0.876	441.051	0.000	441.051	24.791	44.691	5.593	169.5	12	8	22
0.71	0.879	467.890	0.000	467.890	21.893	42.897	5.908	175.4	12	8	22
0.71	0.882	475.014	0.000	475.014	18.158	40.711	6.217	179.5	12	8	22
0.71	0.882	458.033	0.000	458.033	12.227	48.047	2.940	147.8	12	8	22
0.71	0.864	475.014	0.000	475.014	11.524	48.671	4.266	142.9	12	8	22
1.51	0.895	471.018	0.000	471.018	14.880	46.018	8.871	145.2	12	8	22
1.51	0.905	479.509	0.000	479.509	16.890	48.047	5.593	146.5	12	8	22
1.51	0.882	581.398	0.000	581.398	18.860	46.720	3.564	164.9	12	8	22
1.51	1.101	576.903	0.000	576.903	30.800	48.671	12.851	179.6	12	8	22
1.51	1.028	581.398	0.000	581.398	36.107	52.027	5.593	185.8	12	8	22
1.51	1.025	555.926	0.000	555.926	28.771	49.998	9.573	190.4	12	8	22
1.51	1.052	564.417	0.000	564.417	37.433	49.998	4.266	195.2	12	8	22
1.51	1.022	555.926	0.000	555.926	19.484	55.305	11.524	192.4	12	8	22
1.51	1.049	534.449	0.000	534.449	30.098	53.354	6.920	194.7	12	8	22
1.51	1.031	555.926	0.000	555.926	20.811	52.027	10.197	197.4	12	8	22
1.51	0.949	491.996	0.000	491.996	14.880	43.365	6.920	196.5	12	8	22
1.51	0.937	491.996	0.000	491.996	12.227	52.027	6.217	185.3	12	8	22
1.51	0.937	500.486	0.000	500.486	14.896	51.325	10.900	178.8	12	8	22
1.51	0.946	475.014	0.000	475.014	17.533	50.700	3.564	186.7	12	8	22
1.51	0.940	491.996	0.000	491.996	15.798	44.067	10.900	183.3	12	8	22
1.51	0.928	488.000	0.000	488.000	12.227	51.325	4.891	179.3	12	8	22
1.51	0.946	491.996	0.000	491.996	12.851	49.374	12.851	175.9	12	8	22
1.51	0.952	483.505	0.000	483.505	14.880	42.038	10.197	174.3	12	8	22
3.02	1.049	542.940	0.000	542.940	18.904	47.345	6.217	194.7	12	8	22
3.02	1.031	538.944	0.000	538.944	21.513	48.047	10.900	196.8	12	8	22

	3.02	1.031	542.940	0.000	542.940	17.533	52.027	2.940	194.0	12	8	22
	3.02	0.952	508.977	0.000	508.977	28.771	48.047	6.217	190.5	12	8	22
	3.02	0.976	517.468	0.000	517.468	18.158	52.027	4.891	189.7	12	8	22
	3.02	0.989	521.963	0.000	521.963	19.484	50.700	10.197	188.5	12	8	22
	3.02	0.909	483.505	0.000	483.505	20.811	40.711	4.891	187.7	12	8	22
	3.02	0.901	496.491	0.000	496.491	16.207	49.998	6.217	180.6	12	8	22
	3.02	0.922	496.491	0.000	496.491	10.197	41.414	3.564	176.8	12	8	22
	3.02	0.946	491.996	0.000	491.996	10.197	49.374	3.564	172.5	12	8	22
	3.02	0.937	500.486	0.000	500.486	8.246	49.998	3.564	175.7	12	8	22
	3.02	0.970	504.981	0.000	504.981	9.573	40.711	5.593	178.4	12	8	22
	3.02	0.903	458.033	0.000	458.033	8.871	49.374	3.564	183.7	12	8	22
	3.02	0.934	475.014	0.000	475.014	8.246	41.414	5.593	179.5	12	8	22
	3.02	0.915	462.528	0.000	462.528	10.197	49.374	3.564	183.9	12	8	22
Fang et al.2018 ⁴	0	2.338	179.899	195.587	406.775	8.843	1.954	33.581	0	3.72	7.9	32
	0	2.272	182.158	190.134	402.177	8.359	2.863	38.869	0	3.72	7.9	32
	0	2.338	178.501	193.288	412.487	9.757	1.473	38.860	0	3.72	7.9	32
	0	2.361	180.814	194.197	409.004	2.441	1.473	39.209	0	3.72	7.9	32
	0	2.294	176.672	190.134	407.890	9.757	1.473	41.090	0	3.72	7.9	32
	0	2.308	180.814	190.134	409.004	9.273	1.954	39.978	0	3.72	7.9	32
	0	2.309	183.987	194.197	401.062	5.185	2.382	35.557	0	3.72	7.9	32
	0	2.361	179.899	193.288	403.292	7.014	2.382	28.016	0	3.72	7.9	32
	0	2.383	180.329	198.741	421.683	8.843	2.382	41.095	0	3.72	7.9	32
	1.5	2.242	175.757	194.197	406.775	13.356	1.954	43.976	0	3.72	7.9	32
	1.5	2.219	177.586	187.408	409.004	18.902	4.199	41.898	0	3.72	7.9	32
	1.5	2.294	180.814	189.225	419.315	18.418	4.680	40.647	0	3.72	7.9	32
	1.5	2.198	181.728	195.587	421.683	24.388	6.498	50.135	0	3.72	7.9	32

1.5	2.131	178.070	181.474	406.775	28.046	5.589	42.788	0	3.72	7.9	32
1.5	2.213	183.073	184.200	411.373	25.303	4.680	38.359	0	3.72	7.9	32
1.5	2.124	176.672	186.499	406.775	24.388	3.772	49.378	0	3.72	7.9	32
1.5	2.242	185.386	184.681	419.315	19.332	3.290	49.203	0	3.72	7.9	32
1.5	2.235	183.987	185.109	415.971	22.990	2.863	43.744	0	3.72	7.9	32
1.5	2.198	180.814	189.653	418.200	22.075	2.382	53.081	0	3.72	7.9	32
1.5	2.250	174.412	191.471	412.487	18.902	1.954	42.889	0	3.72	7.9	32
1.5	2.212	177.586	191.043	405.521	17.073	2.863	42.694	0	3.72	7.9	32
1.5	2.301	179.415	192.861	410.119	22.075	3.772	27.587	0	3.72	7.9	32
1.5	2.257	186.300	191.043	415.971	23.474	3.290	39.349	0	3.72	7.9	32
1.5	2.286	176.672	189.225	410.119	20.246	2.863	32.694	0	3.72	7.9	32
1.5	2.331	179.415	190.134	412.487	13.845	1.954	35.406	0	3.72	7.9	32
1.5	2.168	172.099	193.288	392.981	18.902	2.382	35.634	0	3.72	7.9	32
1.5	2.227	173.014	196.496	392.981	15.674	1.473	30.575	0	3.72	7.9	32
1.5	2.213	174.843	187.408	391.867	12.931	0.564	35.341	0	3.72	7.9	32
1.5	2.227	176.241	184.200	398.694	14.329	2.863	36.242	0	3.72	7.9	32
1.5	2.272	175.327	191.043	394.096	12.500	1.473	28.036	0	3.72	7.9	32
1.5	2.272	177.586	188.317	392.981	12.016	1.473	27.405	0	3.72	7.9	32
1.5	2.301	179.415	189.653	397.579	10.187	2.863	27.844	0	3.72	7.9	32
1.5	2.368	177.586	194.678	409.004	9.273	2.382	30.354	0	3.72	7.9	32
1.5	2.279	184.471	193.288	407.890	11.102	3.772	39.815	0	3.72	7.9	32
1.5	2.420	189.044	189.225	426.281	5.615	3.772	41.818	0	3.72	7.9	32
1.5	2.308	180.814	198.741	410.119	12.931	3.290	36.098	0	3.72	7.9	32
1.5	2.205	175.757	192.861	397.579	8.843	1.473	45.487	0	3.72	7.9	32
1.5	2.345	175.757	188.744	404.406	10.187	1.954	28.753	0	3.72	7.9	32
1.5	2.294	175.757	190.134	409.004	12.500	3.772	37.162	0	3.72	7.9	32

1.5	2.345	179.415	184.681	407.890	6.530	1.954	35.894	0	3.72	7.9	32
3	2.200	173.498	180.137	388.383	14.270	1.473	22.783	0	3.72	7.9	32
3	2.183	178.985	175.112	389.498	11.586	2.863	36.756	0	3.72	7.9	32
3	2.140	176.672	183.772	392.981	17.073	2.863	39.350	0	3.72	7.9	32
3	2.235	185.816	180.565	409.004	17.987	2.863	41.780	0	3.72	7.9	32
3	2.227	179.899	178.319	404.406	16.158	2.863	40.265	0	3.72	7.9	32
3	2.154	181.728	178.747	396.465	22.075	2.863	37.692	0	3.72	7.9	32
3	2.168	179.415	180.137	398.694	25.303	2.863	34.464	0	3.72	7.9	32
3	2.116	174.412	180.565	390.613	23.474	4.199	34.957	0	3.72	7.9	32
3	2.146	174.843	186.499	394.096	18.902	4.199	38.414	0	3.72	7.9	32
3	2.116	177.586	180.565	394.096	22.990	5.589	37.534	0	3.72	7.9	32
3	2.071	174.843	179.656	386.015	20.731	5.589	38.679	0	3.72	7.9	32
3	2.146	176.241	182.864	395.211	18.902	6.498	37.230	0	3.72	7.9	32
3	2.168	183.987	179.656	402.177	22.990	6.498	36.625	0	3.72	7.9	32
3	2.227	181.728	184.200	409.004	21.161	6.926	35.658	0	3.72	7.9	32
3	2.279	193.616	186.927	420.429	23.474	5.589	38.165	0	3.72	7.9	32
3	2.272	191.303	185.109	420.429	25.733	6.926	35.684	0	3.72	7.9	32
3	2.294	192.701	191.043	419.315	14.329	6.498	42.917	0	3.72	7.9	32
3	2.316	187.645	194.678	419.315	18.902	6.017	35.482	0	3.72	7.9	32
3	2.383	192.217	192.380	426.281	17.503	5.108	34.306	0	3.72	7.9	32
3	2.205	187.215	188.317	403.292	8.843	3.772	48.901	0	3.72	7.9	32
3	2.345	187.645	194.678	413.602	15.674	2.863	31.553	0	3.72	7.9	32
3	2.243	185.816	192.380	411.373	18.902	5.589	39.254	0	3.72	7.9	32
3	2.249	179.899	184.200	399.808	14.760	4.199	32.246	0	3.72	7.9	32
3	2.301	181.728	186.499	405.521	11.102	2.382	35.353	0	3.72	7.9	32
3	2.264	183.987	183.291	409.004	15.244	3.772	39.017	0	3.72	7.9	32

	3	2.272	189.044	186.499	407.890	12.931	6.017	36.855	0	3.72	7.9	32
	3	2.301	191.303	188.317	418.200	16.158	5.108	40.249	0	3.72	7.9	32
	3	2.293	189.474	186.018	414.717	12.500	3.772	43.014	0	3.72	7.9	32
Xing et al.2017^s	0.8	0.681	193.987	195.462	408.835	29.489	27.565	6.463	0	11	7.8	32
	0.8	0.734	196.844	193.905	414.039	25.232	18.033	8.652	0	11	7.8	32
	0.8	0.772	204.405	197.082	422.417	20.472	12.177	5.375	0	11	7.8	32
	0.8	0.807	201.605	205.555	424.448	9.102	6.881	3.186	0	11	7.8	32
	0.8	0.709	190.683	189.668	412.008	11.454	19.590	4.181	0	11	7.8	32
	0.8	0.707	191.131	217.205	434.984	13.862	13.796	5.574	0	11	7.8	32
	0.8	0.784	208.214	226.737	457.960	12.406	11.678	5.070	0	11	7.8	32
	1.3	0.301	205.357	227.235	462.149	130.473	164.188	3.982	0	11	7.8	33
	1.3	0.344	203.957	228.855	481.952	144.699	149.360	5.972	0	11	7.8	33
	1.3	0.321	188.778	229.353	424.448	102.021	153.098	3.783	0	11	7.8	33
	1.3	0.417	181.217	215.087	420.259	97.764	104.380	7.657	0	11	7.8	33
	1.3	0.465	213.927	209.791	451.613	111.038	94.288	10.243	0	11	7.8	33
	1.3	0.520	202.501	214.526	444.378	87.346	86.874	6.369	0	11	7.8	33
	1.3	0.451	195.388	187.550	408.835	82.585	88.494	4.977	0	11	7.8	33
	1.3	0.401	185.474	202.377	414.039	83.986	119.207	4.076	0	11	7.8	33
	1.3	0.445	192.587	193.344	416.197	91.603	86.376	4.977	0	11	7.8	33
	1.3	0.428	186.874	195.462	412.008	91.099	83.697	6.065	0	11	7.8	33
	1.3	0.547	194.939	197.082	413.024	59.846	63.013	4.275	0	11	7.8	33
	1.3	0.615	198.244	194.403	418.228	50.324	45.009	2.882	0	11	7.8	33
	1.3	0.688	194.939	193.344	413.024	29.937	23.328	1.794	0	11	7.8	33
	1.3	0.779	201.100	202.876	427.622	14.759	11.118	2.882	0	11	7.8	33
	1.3	0.768	199.700	200.259	423.433	19.071	13.236	2.086	0	11	7.8	33
	1.3	0.768	198.244	200.758	426.606	16.215	13.796	6.463	0	11	7.8	33

	1.8	0.446	177.409	198.141	405.661	89.699	79.460	5.866	0	11	7.8	34
	1.8	0.383	189.731	198.639	404.646	98.716	98.026	4.076	0	11	7.8	34
	1.8	0.476	200.652	190.167	439.173	99.164	82.638	4.977	0	11	7.8	34
	1.8	0.463	191.131	197.580	429.653	102.021	81.080	6.065	0	11	7.8	34
	1.8	0.408	187.378	215.087	434.984	102.469	108.617	6.568	0	11	7.8	34
	1.8	0.456	178.361	191.226	399.441	79.729	72.607	8.254	0	11	7.8	34
	1.8	0.515	179.313	195.462	403.630	70.712	63.013	5.574	0	11	7.8	34
	1.8	0.481	174.104	195.462	398.425	75.472	70.489	4.076	0	11	7.8	34
	1.8	0.449	178.809	189.668	396.267	79.729	76.283	3.081	0	11	7.8	34
	1.8	0.570	192.083	199.200	417.213	59.846	60.895	4.076	0	11	7.8	34
	1.8	0.624	193.987	200.259	423.433	51.781	48.186	5.574	0	11	7.8	34
	1.8	0.688	197.796	202.876	429.653	38.954	34.978	4.076	0	11	7.8	34
	1.8	0.779	199.700	203.437	431.811	19.519	18.033	6.369	0	11	7.8	34
Yokota et al.2019 ⁶	3	0.053	181.802	18.490	201.279	168.920	7.925	1.398	0	7.5	7.5	38
	3	0.062	173.363	18.490	193.465	167.920	7.925	0.928	0	7.5	7.5	38
	3	0.067	181.802	17.865	201.904	173.918	8.395	1.927	0	7.5	7.5	38
	3	0.063	172.035	24.351	198.622	168.391	8.395	1.927	0	7.5	7.5	38
	3	0.069	175.942	28.258	206.436	162.393	6.925	2.398	0	7.5	7.5	38
	3	0.063	159.689	24.351	186.276	155.925	8.395	2.398	0	7.5	7.5	38
	3	0.058	164.221	28.258	194.715	159.924	8.107	2.398	0	7.5	7.5	38
	3	0.105	181.802	30.914	214.954	145.400	7.925	2.398	0	7.5	7.5	38
	3	0.125	176.645	32.868	211.125	144.930	8.925	2.927	0	7.5	7.5	38
	3	0.125	173.988	37.400	214.328	158.924	11.741	2.398	0	7.5	7.5	38
	3	0.146	178.599	42.557	224.096	153.926	13.393	2.398	0	7.5	7.5	38
	3	0.115	173.363	46.464	222.768	144.930	18.391	3.927	0	7.5	7.5	38
	3	0.162	167.503	45.214	214.328	136.933	6.396	3.397	0	7.5	7.5	38

3	0.115	176.645	56.935	234.567	141.931	17.921	2.398	0	7.5	7.5	38
3	0.141	173.363	55.606	229.956	140.931	14.794	4.926	0	7.5	7.5	38
3	0.183	178.599	56.935	237.770	133.405	8.925	5.926	0	7.5	7.5	38
3	0.193	186.413	51.699	241.677	141.931	2.927	7.396	0	7.5	7.5	38
3	0.240	162.971	57.560	222.768	129.406	1.927	9.924	0	7.5	7.5	38
3	0.318	168.128	65.374	235.739	117.881	2.585	10.924	0	7.5	7.5	38
3	0.375	186.413	73.188	261.837	106.415	2.927	14.393	0	7.5	7.5	38
3	0.442	177.270	85.534	264.416	90.422	3.176	17.392	0	7.5	7.5	38
3	0.572	169.456	103.741	274.809	74.898	4.926	21.919	0	7.5	7.5	38
3	0.552	170.081	121.322	294.969	56.435	5.784	27.388	0	7.5	7.5	38
3	0.608	175.942	140.857	320.989	29.387	7.964	22.919	0	7.5	7.5	38
3	0.458	183.756	175.942	363.659	35.385	15.752	22.096	0	7.5	7.5	38
3	0.505	168.831	190.945	363.527	48.438	27.388	21.390	0	7.5	7.5	38
3	0.570	179.224	168.831	351.620	43.440	45.743	16.921	0	7.5	7.5	38
3	0.411	179.849	191.570	373.656	27.917	63.432	4.397	0	7.5	7.5	38
3	0.183	177.895	67.953	248.085	68.901	10.258	7.573	0	7.5	7.5	38
3	0.245	167.503	67.953	236.442	144.400	2.927	8.395	0	7.5	7.5	38
3	0.229	159.064	73.813	235.114	121.409	5.397	7.396	0	7.5	7.5	38
3	0.318	153.203	103.116	257.930	126.878	3.927	14.922	0	7.5	7.5	38
3	0.370	175.317	121.322	299.579	98.419	1.753	20.920	0	7.5	7.5	38
3	0.422	166.878	142.107	311.222	71.900	0.928	22.919	0	7.5	7.5	38
3	0.484	172.035	154.532	326.850	53.436	6.396	25.918	0	7.5	7.5	38
3	0.650	164.924	178.267	347.382	45.910	0.928	23.964	0	7.5	7.5	38
3	0.552	172.035	181.802	356.074	35.385	7.396	21.919	0	7.5	7.5	38
3	0.702	179.224	179.849	361.310	31.915	14.922	21.895	0	7.5	7.5	38
3	0.687	183.756	192.898	379.594	31.758	27.917	21.584	0	7.5	7.5	38

3	0.723	173.363	213.058	388.033	32.915	20.391	20.764	0	7.5	7.5	38
3	0.754	167.503	199.384	369.124	30.759	15.869	20.391	0	7.5	7.5	38
3	0.795	174.692	205.740	381.418	28.691	10.924	28.917	0	7.5	7.5	38
3	0.837	173.363	220.872	395.847	29.387	9.924	29.385	0	7.5	7.5	38
3	0.936	164.221	215.637	381.470	31.962	7.842	31.386	0	7.5	7.5	38
3	1.013	167.503	210.753	379.868	32.853	6.925	31.915	0	7.5	7.5	38
3	1.065	157.735	208.526	367.873	33.915	2.398	32.585	0	7.5	7.5	38
3	1.102	164.924	216.340	382.876	33.761	10.395	32.915	0	7.5	7.5	38
3	1.169	207.823	219.544	430.307	33.915	22.390	30.387	0	7.5	7.5	38
3	1.117	219.544	226.108	448.592	37.913	34.385	30.916	0	7.5	7.5	38
3	1.050	198.055	235.797	436.793	85.424	61.433	22.390	0	7.5	7.5	38
3	0.884	186.413	229.937	419.914	37.384	30.916	29.387	0	7.5	7.5	38
3	0.993	190.320	223.451	418.664	27.917	4.397	27.917	0	7.5	7.5	38
3	1.159	178.599	215.637	397.801	17.392	5.397	27.917	0	7.5	7.5	38
3	1.086	159.689	222.826	386.080	10.395	4.762	27.388	0	7.5	7.5	38
3	1.216	168.831	209.151	379.594	1.398	2.927	28.692	0	7.5	7.5	38
3	1.372	176.645	216.340	394.597	8.147	2.754	34.914	0	7.5	7.5	38
3	1.278	164.924	202.666	369.827	11.923	1.398	33.385	0	7.5	7.5	38
3	1.258	168.831	198.055	370.452	16.921	2.927	30.916	0	7.5	7.5	38
3	1.024	173.363	205.869	382.173	21.390	3.927	24.918	0	7.5	7.5	38
3	1.237	177.895	194.227	375.687	15.741	3.751	31.915	0	7.5	7.5	38
3	1.304	166.878	213.058	383.501	9.395	3.927	31.915	0	7.5	7.5	38
3	1.397	170.785	209.776	385.455	4.926	1.927	28.917	0	7.5	7.5	38
3	1.289	165.549	191.570	363.263	4.926	0.399	26.917	0	7.5	7.5	38
3	0.539	89.789	118.908	208.697	0.794	5.798	18.798	0	8	7.4	25
3	0.539	89.810	117.700	207.509	0.843	6.138	19.154	0	8	7.4	25

Wei et al.2016⁷	3	0.533	90.685	116.716	207.400	1.299	9.857	21.013	0	8	7.4	25
	3	0.533	90.685	117.700	208.384	0.424	4.279	14.451	0	8	7.4	25
	3	0.527	87.950	116.716	204.666	1.143	3.295	22.873	0	8	7.4	25
	3	0.604	88.825	118.575	207.400	1.299	2.420	25.607	0	8	7.4	25
	3	0.611	88.825	119.559	208.384	1.299	6.138	27.466	0	8	7.4	25
	3	0.592	86.966	119.559	206.525	1.299	7.013	3.295	0	8	7.4	25
	3	0.563	88.825	119.559	208.384	0.424	2.420	7.013	0	8	7.4	25
	3	0.545	88.825	117.700	206.525	0.560	4.279	6.138	0	8	7.4	25
	3	0.551	86.966	117.700	204.666	1.299	4.279	20.029	0	8	7.4	25
	3	0.539	86.966	117.700	204.666	0.424	7.013	17.295	0	8	7.4	25
	3	0.604	87.950	117.700	205.650	0.560	7.013	22.873	0	8	7.4	25
	3	0.551	86.966	119.559	206.525	0.560	2.420	3.295	0	8	7.4	25
	3	0.557	87.950	119.559	207.509	0.560	0.560	23.748	0	8	7.4	25
	3	0.557	86.091	120.434	206.525	0.560	3.295	24.732	0	8	7.4	25
	5	0.467	88.825	119.559	208.384	0.560	4.279	23.748	0	8	7.4	25
	5	0.455	87.950	119.559	207.509	0.560	4.279	58.200	0	8	7.4	25
	5	0.481	87.950	117.700	205.650	2.420	3.295	57.216	0	8	7.4	25
	5	0.461	87.950	118.575	206.525	4.279	1.435	57.216	0	8	7.4	25
	5	0.557	86.966	117.700	204.666	3.295	2.420	53.497	0	8	7.4	25
	5	0.539	86.966	118.575	205.541	2.420	2.420	58.200	0	8	7.4	25
	5	0.563	86.966	117.700	204.666	4.279	3.295	22.873	0	8	7.4	25
	5	0.539	86.966	117.700	204.666	5.154	3.295	28.451	0	8	7.4	25
	5	0.604	86.966	118.575	205.541	5.154	3.295	21.013	0	8	7.4	25
	5	0.568	85.106	115.841	200.947	1.435	3.295	24.732	0	8	7.4	25
	5	0.563	88.825	116.716	205.541	4.279	1.435	3.295	0	8	7.4	25
	3	0.552	87.950	117.700	205.650	3.295	3.295	19.154	0	8	7.4	25

3	0.572	86.966	120.434	207.400	3.295	3.295	18.170	0	8	7.4	25
3	0.568	86.091	119.559	205.650	3.295	3.295	21.013	0	8	7.4	25
3	0.587	87.950	120.434	208.384	3.295	3.295	12.592	0	8	7.4	25
3	0.580	88.825	120.434	209.259	2.420	0.560	12.592	0	8	7.4	25
3	0.592	87.950	117.700	205.650	2.420	2.420	15.435	0	8	7.4	25
3	0.575	88.825	116.716	205.541	3.295	4.279	14.451	0	8	7.4	25
3	0.587	88.825	116.716	205.541	4.279	2.420	19.154	0	8	7.4	25
3	0.407	88.825	118.575	207.400	3.295	4.279	14.451	0	8	7.4	25
7.5	0.389	88.825	118.575	207.400	27.466	4.279	19.154	0	8	7.4	25
7.5	0.419	87.950	118.575	206.525	24.732	29.326	10.732	0	8	7.4	25
7.5	0.365	88.825	117.700	206.525	33.044	17.295	30.310	0	8	7.4	25
7.5	0.449	87.950	117.700	205.650	38.623	12.592	24.732	0	8	7.4	25
7.5	0.359	88.825	118.575	207.400	29.326	26.591	20.029	0	8	7.4	25
7.5	0.348	88.825	120.434	209.259	3.295	2.420	59.075	0	8	7.4	25
7.5	0.324	88.825	118.575	207.400	35.888	17.295	38.623	0	8	7.4	25
7.5	0.401	86.966	117.700	204.666	37.748	4.279	55.357	0	8	7.4	25
7.5	0.329	86.091	118.575	204.666	3.295	5.154	58.200	0	8	7.4	25
7.5	0.312	87.950	119.559	207.509	50.763	2.420	69.357	0	8	7.4	25
7.5	0.257	88.825	117.700	206.525	54.482	33.044	15.435	0	8	7.4	25
7.5	0.276	88.825	117.700	206.525	54.482	10.732	43.326	0	8	7.4	25
7.5	0.245	88.825	117.700	206.525	40.482	2.420	65.638	0	8	7.4	25
7.5	0.269	87.950	117.700	205.650	47.919	3.295	73.950	0	8	7.4	25
7.5	0.245	88.825	118.575	207.400	38.623	2.420	79.528	0	8	7.4	25
7.5	0.228	88.825	118.575	207.400	43.326	2.420	76.794	0	8	7.4	25
7.5	0.240	88.825	118.575	207.400	46.060	0.560	86.091	0	8	7.4	25
7.5	0.204	90.685	118.575	209.259	58.200	3.295	80.513	0	8	7.4	25

	7.5	0.222	90.685	119.559	210.244	52.622	44.201	34.029	0	8	7.4	25
	7.5	0.174	90.685	118.575	209.259	61.919	37.748	42.341	0	8	7.4	25
	7.5	0.138	89.810	118.575	208.384	63.779	41.466	51.638	0	8	7.4	25
	7.5	0.186	90.685	117.700	208.384	74.935	14.451	81.388	0	8	7.4	25
	7.5	0.132	89.810	119.559	209.369	57.216	44.201	32.169	0	8	7.4	25
	7.5	0.162	89.810	118.575	208.384	68.372	6.138	91.669	0	8	7.4	25
	7.5	0.114	88.825	119.559	208.384	70.232	10.732	80.513	0	8	7.4	25
	7.5	0.102	89.810	117.700	207.509	60.935	11.717	86.966	0	8	7.4	25
	7.5	0.090	89.810	118.575	208.384	67.497	6.138	112.122	0	8	7.4	25
	7.5	0.132	88.825	118.575	207.400	58.200	0.424	97.247	0	8	7.4	25
	7.5	0.084	87.950	117.700	205.650	72.091	3.295	104.684	0	8	7.4	25
	7.5	0.174	90.685	117.700	208.384	76.794	1.435	99.106	0	8	7.4	25
	7.5	0.150	88.825	117.700	206.525	70.232	0.560	79.528	0	8	7.4	25
	7.5	0.072	87.950	118.575	206.525	65.638	0.560	89.810	0	8	7.4	25
	7.5	0.132	87.950	121.419	209.369	71.216	0.560	112.997	0	8	7.4	25
	7.5	0.090	88.825	120.434	209.259	59.075	0.560	101.841	0	8	7.4	25
	7.5	0.054	88.825	118.575	207.400	63.779	1.435	114.856	0	8	7.4	25
	7.5	0.054	88.825	120.434	209.259	65.638	0.560	123.278	0	8	7.4	25
	7.5	0.072	88.825	116.716	205.541	73.950	12.592	110.262	0	8	7.4	25
	7.5	0.042	90.685	120.434	211.119	57.216	2.420	108.403	0	8	7.4	25
Park et al.2021 ⁸	0.5	1.155	97.370	89.094	186.464	22.197	20.416	1.245	0	3	7	31
	0.5	1.280	110.261	100.361	210.622	33.091	45.435	0.569	0	3	7	31
	0.5	1.193	123.640	113.782	237.422	34.872	41.914	11.527	0	3	7	31
	0.5	1.092	109.557	102.515	212.072	23.937	51.441	0.186	0	3	7	31
	0.5	1.005	109.557	96.840	206.397	27.831	48.956	3.946	0	3	7	31
	0.5	0.881	113.409	101.065	214.474	31.683	46.139	26.521	0	3	7	31

0.5	0.895	109.184	101.438	210.622	27.831	57.075	13.826	0	3	7	31
0.5	0.956	127.492	125.049	252.541	26.049	66.229	40.753	0	3	7	31
0.5	1.031	112.705	113.409	226.114	24.310	39.470	33.446	0	3	7	31
0.5	1.144	105.663	106.740	212.403	7.741	35.949	25.758	0	3	7	31
0.5	1.092	100.030	106.036	206.065	2.160	34.590	32.808	0	3	7	31
0.5	1.205	98.248	116.226	214.474	4.593	38.062	21.244	0	3	7	31
0.5	1.915	128.901	124.344	253.245	7.409	13.043	6.789	0	3	7	31
0.5	1.130	98.953	107.444	206.397	12.670	22.529	30.002	0	3	7	31
0.5	1.216	97.544	103.923	201.467	9.149	10.930	29.348	0	3	7	31
0.5	1.629	122.232	125.753	247.985	16.564	23.606	4.197	0	3	7	31
1.0	1.759	120.824	126.788	247.612	10.558	13.374	3.755	0	3	7	31
1.0	1.717	123.580	130.309	253.889	10.710	14.530	13.972	0	3	7	31
1.0	1.727	125.380	130.309	255.689	11.262	15.487	13.102	0	3	7	31
1.0	1.852	134.203	147.914	282.117	29.570	39.097	18.011	0	3	7	31
1.5	1.664	126.084	123.267	249.352	10.930	17.268	13.138	0	3	7	31
1.5	1.626	135.943	141.576	277.519	22.529	32.760	18.994	0	3	7	31
1.5	1.652	137.830	131.386	269.216	31.683	42.618	11.545	0	3	7	31
1.5	2.100	138.055	146.505	284.560	19.008	28.162	25.134	0	3	7	31
1.5	2.088	139.464	148.286	287.750	17.972	28.162	19.444	0	3	7	31
1.5	1.453	133.126	148.991	282.117	22.901	26.754	50.823	0	3	7	31
1.5	1.702	142.280	137.020	279.300	11.635	26.754	28.208	0	3	7	31
1.5	1.652	120.824	137.351	258.174	20.416	28.162	3.046	0	3	7	31
1.5	1.603	118.338	133.499	251.837	17.268	28.535	5.639	0	3	7	31
1.5	1.802	147.914	144.061	291.975	22.529	34.541	9.599	0	3	7	31
1.5	1.540	146.505	129.605	276.110	21.493	27.831	34.304	0	3	7	31
1.5	1.502	126.457	118.007	244.464	13.043	18.676	24.951	0	3	7	31

	2.0	1.577	120.451	125.380	245.831	14.783	21.824	12.052	0	3	7	31
	2.0	1.392	126.084	131.013	257.098	29.943	32.387	20.747	0	3	7	31
	2.0	1.938	134.534	138.055	272.589	33.837	36.654	0.000	0	3	7	31
	2.0	1.826	125.480	134.534	260.014	36.985	17.972	0.896	0	3	7	31
	2.0	1.727	139.132	128.569	267.702	15.155	41.210	4.591	0	3	7	31
	2.0	1.739	134.534	129.605	264.139	16.191	40.174	9.619	0	3	7	31
	2.0	1.629	141.949	136.315	278.264	23.937	23.937	26.772	0	3	7	31
	2.0	1.591	130.682	134.203	264.885	20.416	25.718	19.821	0	3	7	31
	2.5	1.398	139.464	141.949	281.412	19.008	32.387	55.274	0	3	7	31
	2.5	1.280	146.878	144.393	291.271	52.477	60.223	18.619	0	3	7	31
	2.5	1.432	128.197	130.309	258.506	26.422	35.949	17.134	0	3	7	31
	2.5	1.230	122.936	126.788	249.724	37.689	49.660	8.576	0	3	7	31
	2.5	1.392	117.240	124.344	241.584	25.014	31.352	11.199	0	3	7	31
	2.5	0.234	136.647	134.203	270.850	114.486	109.557	17.561	0	3	7	31
	2.5	0.572	139.570	131.386	270.956	90.875	114.817	6.184	0	3	7	31
	2.5	0.757	147.209	123.972	271.181	72.898	69.046	34.639	0	3	7	31
Guo et al.2020⁹	0	0.390	504.275	0.000	504.275				0	12	7.8	25
	0	0.508	565.040	0.000	565.040				0	12	7.8	25
	0	0.332	504.275	0.000	504.275				0	12	7.8	25
	0	0.332	524.530	0.000	524.530				0	12	7.8	25
	0	0.469	513.805	0.000	513.805				0	12	7.8	25
	0	0.508	513.805	0.000	513.805				0	12	7.8	25
	0	0.529	574.570	0.000	574.570				0	12	7.8	25
	0	0.351	534.060	0.000	534.060				0	12	7.8	25
	0	0.293	534.060	0.000	534.060				0	12	7.8	25
	0	0.469	565.040	0.000	565.040				0	12	7.8	25

0	0.214	261.210	0.000	261.210	0	12	7.8	25
0.25	0.390	565.040	0.000	565.040	0	12	7.8	25
0.25	0.529	524.530	0.000	524.530	0	12	7.8	25
0.25	0.489	534.060	0.000	534.060	0	12	7.8	25
0.25	0.804	524.530	0.000	524.530	0	12	7.8	25
0.25	0.862	565.040	0.000	565.040	0	12	7.8	25
0.25	0.822	544.785	0.000	544.785	0	12	7.8	25
0.25	0.804	565.040	0.000	565.040	0	12	7.8	25
0.25	1.001	594.830	0.000	594.830	0	12	7.8	25
0.25	0.665	594.830	0.000	594.830	0	12	7.8	25
0.25	0.704	565.040	0.000	565.040	0	12	7.8	25
0.25	0.822	635.340	0.000	635.340	0	12	7.8	25
0.5	0.940	666.315	0.000	666.315	0	12	7.8	25
0.5	0.862	615.085	0.000	615.085	0	12	7.8	25
0.5	0.804	554.315	0.000	554.315	0	12	7.8	25
0.5	0.862	554.315	0.000	554.315	0	12	7.8	25
0.5	0.901	534.060	0.000	534.060	0	12	7.8	25
0.5	0.862	524.530	0.000	524.530	0	12	7.8	25
0.5	0.843	534.060	0.000	534.060	0	12	7.8	25
0.5	0.804	585.295	0.000	585.295	0	12	7.8	25
0.5	0.783	605.550	0.000	605.550	0	12	7.8	25
0.5	0.961	646.060	0.000	646.060	0	12	7.8	25
1	1.079	605.550	0.000	605.550	0	12	7.8	25
1	0.783	524.530	0.000	524.530	0	12	7.8	25
1	0.901	565.040	0.000	565.040	0	12	7.8	25
1	0.961	554.315	0.000	554.315	0	12	7.8	25

1	0.922	534.060	0.000	534.060	0	12	7.8	25
1.5	0.341	565.040	0.000	565.040	0	12	7.8	25
1.5	0.214	311.255	0.000	311.255	0	12	7.8	25
1.5	0.469	311.255	0.000	311.255	0	12	7.8	25
1.5	0.665	463.765	0.000	463.765	0	12	7.8	25
1.5	0.547	585.295	0.000	585.295	0	12	7.8	25
1.5	0.862	605.550	0.000	605.550	0	12	7.8	25
1.5	0.665	544.785	0.000	544.785	0	12	7.8	25
1.5	0.980	585.295	0.000	585.295	0	12	7.8	25
2	0.725	534.060	0.000	534.060	0	12	7.8	25
2	0.626	554.315	0.000	554.315	0	12	7.8	25
2	0.529	484.020	0.000	484.020	0	12	7.8	25
2	0.647	504.275	0.000	504.275	0	12	7.8	25
2	0.862	484.020	0.000	484.020	0	12	7.8	25
2	0.744	585.295	0.000	585.295	0	12	7.8	25
2	0.765	513.805	0.000	513.805	0	12	7.8	25
2.5	0.883	544.785	0.000	544.785	0	12	7.8	25
2.5	0.586	504.275	0.000	504.275	0	12	7.8	25
2.5	0.822	565.040	0.000	565.040	0	12	7.8	25
2.5	0.704	504.275	0.000	504.275	0	12	7.8	25
2.5	0.804	504.275	0.000	504.275	0	12	7.8	25
2.5	0.744	554.315	0.000	554.315	0	12	7.8	25
3	0.704	493.550	0.000	493.550	0	12	7.8	25
3	0.647	504.275	0.000	504.275	0	12	7.8	25
3	0.311	504.275	0.000	504.275	0	12	7.8	25
3	0.429	534.060	0.000	534.060	0	12	7.8	25

	3	0.233	453.040	0.000	453.040	0	12	7.8	25
	3	0.390	504.275	0.000	504.275	0	12	7.8	25
	3	0.390	473.295	0.000	473.295	0	12	7.8	25
	3	0.253	484.020	0.000	484.020	0	12	7.8	25
	3	0.154	484.020	0.000	484.020	0	12	7.8	25
	3	0.057	484.020	0.000	484.020	0	12	7.8	25
	3	0.135	484.020	0.000	484.020	0	12	7.8	25
Meng et al.2018¹⁰	0	0.066	48.295	63.749	112.043	0	8	7.8	33
	0	0.144	53.593	70.743	124.337	0	8	7.8	33
	0	0.195	51.645	68.172	119.817	0	8	7.8	33
	0	0.241	54.920	72.494	127.413	0	8	7.8	33
	0	0.269	52.971	69.922	122.893	0	8	7.8	33
	0	0.426	81.418	107.472	188.890	0	8	7.8	33
	0	0.412	80.093	105.723	185.817	0	8	7.8	33
	0	0.380	76.819	101.401	178.220	0	8	7.8	33
	0	0.555	132.467	174.856	307.323	0	8	7.8	33
	0	0.634	132.467	174.856	307.323	0	8	7.8	33
	0	0.643	260.986	344.501	605.487	0	8	7.8	33
	0	0.694	261.687	345.427	607.113	0	8	7.8	33
	0	0.804	259.037	341.929	600.967	0	8	7.8	33
	0	0.957	259.661	342.752	602.413	0	8	7.8	33
	0	1.109	263.635	347.998	611.633	0	8	7.8	33
	0	1.151	264.336	348.924	613.260	0	8	7.8	33
	0	0.943	258.336	341.004	599.340	0	8	7.8	33
	0	1.003	264.960	349.747	614.707	0	8	7.8	33
	0	0.994	263.011	347.175	610.187	0	8	7.8	33

0	0.666	121.868	160.866	282.733	0	8	7.8	33
0	0.712	127.790	168.683	296.473	0	8	7.8	33
0.5	0.629	121.165	159.938	281.103	0	8	7.8	33
0.5	0.662	127.167	167.860	295.027	0	8	7.8	33
0.5	0.666	125.141	165.186	290.327	0	8	7.8	33
0.5	0.643	121.868	160.866	282.733	0	8	7.8	33
0.5	0.694	130.441	172.182	302.623	0	8	7.8	33
0.5	0.680	124.517	164.363	288.880	0	8	7.8	33
0.5	0.703	127.167	167.860	295.027	0	8	7.8	33
0.5	0.708	129.115	170.432	299.547	0	8	7.8	33
0.5	0.657	123.193	162.614	285.807	0	8	7.8	33
0.5	0.671	121.868	160.866	282.733	0	8	7.8	33
0.5	0.666	121.868	160.866	282.733	0	8	7.8	33
0.5	0.606	124.517	164.363	288.880	0	8	7.8	33
1	0.475	117.892	155.618	273.510	0	8	7.8	33
1	0.491	119.217	157.366	276.583	0	8	7.8	33
1	0.643	119.217	157.366	276.583	0	8	7.8	33
1	0.675	129.115	170.432	299.547	0	8	7.8	33
1	0.588	116.568	153.869	270.437	0	8	7.8	33
1	0.597	121.165	159.938	281.103	0	8	7.8	33
1	0.601	115.866	152.944	268.810	0	8	7.8	33
1	0.583	118.516	156.441	274.957	0	8	7.8	33
1	0.560	114.542	151.195	265.737	0	8	7.8	33
1	0.560	106.592	140.701	247.293	0	8	7.8	33
1	0.523	113.216	149.444	262.660	0	8	7.8	33
1	0.537	113.216	149.444	262.660	0	8	7.8	33

1.5	0.431	123.193	162.614	285.807	0	8	7.8	33
1.5	0.431	119.841	158.189	278.030	0	8	7.8	33
1.5	0.505	117.191	154.692	271.883	0	8	7.8	33
1.5	0.454	125.842	166.111	291.953	0	8	7.8	33
1.5	0.394	119.217	157.366	276.583	0	8	7.8	33
1.5	0.518	119.217	157.366	276.583	0	8	7.8	33
1.5	0.361	115.243	152.121	267.363	0	8	7.8	33
1.5	0.357	108.618	143.376	251.993	0	8	7.8	33
1.5	0.329	101.993	134.631	236.623	0	8	7.8	33
1.5	0.398	105.968	139.878	245.847	0	8	7.8	33
1.5	0.361	112.593	148.623	261.217	0	8	7.8	33
2	0.385	117.191	154.692	271.883	0	8	7.8	33
2	0.334	115.243	152.121	267.363	0	8	7.8	33
2	0.352	116.568	153.869	270.437	0	8	7.8	33
2	0.417	119.841	158.189	278.030	0	8	7.8	33
2	0.320	122.491	161.689	284.180	0	8	7.8	33
2	0.251	119.217	157.366	276.583	0	8	7.8	33
2	0.297	117.892	155.618	273.510	0	8	7.8	33
2	0.297	123.816	163.437	287.253	0	8	7.8	33
2	0.324	119.217	157.366	276.583	0	8	7.8	33
2	0.186	118.516	156.441	274.957	0	8	7.8	33
2	0.246	117.191	154.692	271.883	0	8	7.8	33
2	0.195	116.568	153.869	270.437	0	8	7.8	33
2	0.209	118.516	156.441	274.957	0	8	7.8	33
2	0.292	117.191	154.692	271.883	0	8	7.8	33
0.11	0.567	171.442	0.000	171.442	0	2.4	8	32

Li et al.2018¹¹	0.11	0.781	173.213	0.000	173.213	0	2.4	8	32
	0.11	0.504	155.607	0.000	155.607	0	2.4	8	32
	0.11	0.563	167.068	0.000	167.068	0	2.4	8	32
	0.11	0.553	178.916	0.000	178.916	0	2.4	8	32
	0.11	0.863	149.019	0.000	149.019	0	2.4	8	32
	0.11	0.509	162.638	0.000	162.638	0	2.4	8	32
	0.11	0.684	178.030	0.000	178.030	0	2.4	8	32
	0.11	0.776	182.459	0.000	182.459	0	2.4	8	32
	0.11	0.800	163.081	0.000	163.081	0	2.4	8	32
	0.11	0.825	174.542	0.000	174.542	0	2.4	8	32
	0.11	0.771	181.573	0.000	181.573	0	2.4	8	32
	0.11	0.941	178.916	0.000	178.916	0	2.4	8	32
	0.11	1.014	164.410	0.000	164.410	0	2.4	8	32
	0.11	0.960	132.741	0.000	132.741	0	2.4	8	32
	0.11	0.728	174.099	0.000	174.099	0	2.4	8	32
	0.11	0.839	183.345	0.000	183.345	0	2.4	8	32
	0.11	0.946	178.030	0.000	178.030	0	2.4	8	32
	0.11	0.781	145.918	0.000	145.918	0	2.4	8	32
	0.11	0.747	129.696	0.000	129.696	0	2.4	8	32
	0.11	0.732	167.954	0.000	167.954	0	2.4	8	32
	0.11	0.873	150.790	0.000	150.790	0	2.4	8	32
	0.11	0.805	184.619	0.000	184.619	0	2.4	8	32
	0.11	0.873	178.916	0.000	178.916	0	2.4	8	32
	0.43	0.973	177.000	0.000	177.000	0	2.4	8	32
	0.43	1.073	174.542	0.000	174.542	0	2.4	8	32
	0.43	1.106	183.345	0.000	183.345	0	2.4	8	32

0.43	0.960	167.954	0.000	167.954	0	2.4	8	32
0.43	0.951	160.867	0.000	160.867	0	2.4	8	32
0.43	0.931	165.739	0.000	165.739	0	2.4	8	32
0.43	0.999	158.708	0.000	158.708	0	2.4	8	32
0.43	1.149	156.936	0.000	156.936	0	2.4	8	32
0.43	1.140	170.113	0.000	170.113	0	2.4	8	32
0.43	1.120	178.473	0.000	178.473	0	2.4	8	32
0.43	0.975	163.524	0.000	163.524	0	2.4	8	32
0.43	1.019	165.296	0.000	165.296	0	2.4	8	32
0.43	1.087	175.871	0.000	175.871	0	2.4	8	32
0.43	1.043	193.865	0.000	193.865	0	2.4	8	32
0.43	0.941	163.524	0.000	163.524	0	2.4	8	32
0.84	1.300	198.737	0.000	198.737	0	2.4	8	32
0.84	0.825	178.473	0.000	178.473	0	2.4	8	32
0.84	0.863	173.213	0.000	173.213	0	2.4	8	32
0.84	0.936	191.262	0.000	191.262	0	2.4	8	32
0.84	0.630	194.308	0.000	194.308	0	2.4	8	32
0.84	0.747	166.182	0.000	166.182	0	2.4	8	32
0.84	0.771	156.493	0.000	156.493	0	2.4	8	32
0.84	0.713	152.119	0.000	152.119	0	2.4	8	32
0.84	0.810	171.885	0.000	171.885	0	2.4	8	32
0.84	0.810	152.950	0.000	152.950	0	2.4	8	32
0.84	0.572	156.493	0.000	156.493	0	2.4	8	32
0.84	0.757	159.150	0.000	159.150	0	2.4	8	32
0.84	0.805	156.493	0.000	156.493	0	2.4	8	32
0.84	0.766	149.462	0.000	149.462	0	2.4	8	32

0.84	0.718	152.119	0.000	152.119	0	2.4	8	32
1.38	1.077	164.410	0.000	164.410	0	2.4	8	32
1.38	0.822	149.904	0.000	149.904	0	2.4	8	32
1.38	0.815	155.164	0.000	155.164	0	2.4	8	32
1.38	0.625	165.739	0.000	165.739	0	2.4	8	32
1.38	0.790	125.267	0.000	125.267	0	2.4	8	32
1.38	0.912	166.182	0.000	166.182	0	2.4	8	32
1.38	0.781	161.753	0.000	161.753	0	2.4	8	32
1.38	0.718	92.712	0.000	92.712	0	2.4	8	32
1.38	0.999	165.739	0.000	165.739	0	2.4	8	32
1.38	0.819	142.873	0.000	142.873	0	2.4	8	32
1.38	0.650	142.873	0.000	142.873	0	2.4	8	32
1.38	0.834	163.967	0.000	163.967	0	2.4	8	32
1.38	0.664	151.676	0.000	151.676	0	2.4	8	32
1.38	0.538	163.967	0.000	163.967	0	2.4	8	32
1.38	0.596	190.377	0.000	190.377	0	2.4	8	32
1.38	0.771	140.658	0.000	140.658	0	2.4	8	32
1.38	0.829	159.150	0.000	159.150	0	2.4	8	32
1.38	0.805	166.625	0.000	166.625	0	2.4	8	32
1.38	0.698	169.670	0.000	169.670	0	2.4	8	32
1.38	0.965	165.296	0.000	165.296	0	2.4	8	32
1.38	1.033	168.784	0.000	168.784	0	2.4	8	32
1.38	1.033	171.442	0.000	171.442	0	2.4	8	32
1.38	1.048	169.227	0.000	169.227	0	2.4	8	32
1.38	1.077	167.068	0.000	167.068	0	2.4	8	32
1.38	0.965	167.068	0.000	167.068	0	2.4	8	32

1.38	0.994	173.656	0.000	173.656	0	2.4	8	32
1.85	0.904	168.341	0.000	168.341	0	2.4	8	32
1.85	0.802	153.392	0.000	153.392	0	2.4	8	32
1.85	1.052	170.113	0.000	170.113	0	2.4	8	32
1.85	1.130	163.967	0.000	163.967	0	2.4	8	32
1.85	1.169	169.670	0.000	169.670	0	2.4	8	32
1.85	1.310	167.511	0.000	167.511	0	2.4	8	32
1.85	1.081	165.739	0.000	165.739	0	2.4	8	32
1.85	1.033	154.721	0.000	154.721	0	2.4	8	32
1.85	0.563	145.475	0.000	145.475	0	2.4	8	32
1.85	0.863	169.670	0.000	169.670	0	2.4	8	32
1.85	0.640	168.000	0.000	168.000	0	2.4	8	32
1.85	0.524	162.196	0.000	162.196	0	2.4	8	32
1.85	0.703	165.739	0.000	165.739	0	2.4	8	32
1.85	0.577	166.625	0.000	166.625	0	2.4	8	32
1.85	1.023	168.000	0.000	168.000	0	2.4	8	32
1.85	0.786	169.227	0.000	169.227	0	2.4	8	32
1.85	0.776	161.753	0.000	161.753	0	2.4	8	32
1.85	0.926	167.068	0.000	167.068	0	2.4	8	32
1.85	0.742	176.701	0.000	176.701	0	2.4	8	32
1.85	0.790	174.099	0.000	174.099	0	2.4	8	32
1.85	0.849	173.656	0.000	173.656	0	2.4	8	32
1.85	0.883	173.000	0.000	173.000	0	2.4	8	32
2.4	0.582	174.542	0.000	174.542	0	2.4	8	32
2.4	0.747	174.099	0.000	174.099	0	2.4	8	32
2.4	0.708	173.000	0.000	173.000	0	2.4	8	32

2.4	0.592	171.442	0.000	171.442	0	2.4	8	32
2.4	0.553	167.954	0.000	167.954	0	2.4	8	32
2.4	0.557	165.739	0.000	165.739	0	2.4	8	32
2.4	0.489	164.000	0.000	164.000	0	2.4	8	32
2.4	0.422	161.753	0.000	161.753	0	2.4	8	32
2.4	0.412	166.182	0.000	166.182	0	2.4	8	32
2.4	0.407	121.336	0.000	121.336	0	2.4	8	32
2.4	0.286	113.862	0.000	113.862	0	2.4	8	32

Table S2 Summary of literatures about type of anammox bacteria, sludge morphology and nitrogen removal process

Literature	Type of anammox bacteria	Sludge morphology	Nitrogen removal process
Wu et al.2019 ¹	1	2	1
Ge et al.2019 ²	1	1	2
Huang et al.2021 ³	1	1	3
Fang et al.2018 ⁴	1	2	1
Xing et al.2017 ⁵	1	1	1
Park et al.2021 ⁸	1	1	1
Guo et al.2020 ⁹	1	1	2
Meng et al.2018 ¹⁰	1	1	1
Li et al.2018 ¹¹	1	2	2
Yokota et al.2019 ⁶	2	1	2
Wei et al.2016 ⁷	2	1	1

Type of anammox bacteria: 1 represents for freshwater anammox bacteria, 2 represents seawater anammox bacteria.

Sludge morphology: 1 is activated sludge, 2 is anammox granular sludge and 3 is biofilm.

Nitrogen removal process: 1 is anammox process, 2 is partial nitrification and anammox process (PNA), and 3 is simultaneous nitrification, anammox and denitrification process (SNAD).

Table S3 Summary of literatures for statistical analysis based on Table S1

Literature	Salinity %	NRR kg/(m ³ ·d)
Freshwater anammox bacteria		
Wu et al.2019¹	0.5	1.348
	0.5	1.531
	0.5	1.450
	0.5	1.672
	0.5	1.429
	1	1.510
	1	1.450
	1	1.510
	1	1.531
	1.5	1.612
	1.5	1.469
	1.5	1.510
	1.5	1.653
	1.5	1.591
	1.5	1.591
	1.5	1.653
	1.5	1.491
	1.5	1.410
	1.5	1.572
	2	1.429
	2	1.491
	2	1.248

	2	0.942
	2	0.497
	2	1.045
	2	0.740
	2	0.659
	2	0.861
	2	0.699
	2	0.275
	2	0.415
Ge et al.2019 ²	0.5	0.024
	0.5	0.037
	0.5	0.050
	0.5	0.049
	0.5	0.071
	0.5	0.062
	0.5	0.067
	0.5	0.072
	0.5	0.071
	0.5	0.071
	0.5	0.064
	0.5	0.068
	0.5	0.068
	1	0.071
	1	0.066
	1	0.074
	1	0.071

1	0.072
1	0.067
1	0.072
1	0.068
1	0.066
1	0.074
1	0.067
1.5	0.067
1.5	0.067
1.5	0.064
1.5	0.069
1.5	0.069
1.5	0.071
1.5	0.070
1.5	0.067
2	0.064
2	0.072
2	0.069
2	0.073
2	0.053
3	0.052
3	0.059
3	0.061
3	0.058
3	0.039
3	0.045

3	0.050
3	0.053
3	0.057
3	0.061
3	0.067
3	0.066
3	0.065
3	0.072
3	0.068
3	0.074
3	0.066
3	0.068
5	0.049
5	0.062
5	0.065
5	0.068
5	0.074
5	0.049
5	0.059
5	0.064
5	0.064
5	0.063
5	0.065
5	0.057
5	0.049
5	0.052

	5	0.038
	5	0.035
	5	0.033
Huang et al.2021 ³	1.51	0.895
	1.51	0.905
	1.51	0.882
	1.51	1.101
	1.51	1.028
	1.51	1.025
	1.51	1.052
	1.51	1.022
	1.51	1.049
	1.51	1.031
	1.51	0.949
	1.51	0.937
	1.51	0.937
	1.51	0.946
	1.51	0.940
	1.51	0.928
	1.51	0.946
	1.51	0.952
	3.02	1.049
	3.02	1.031
	3.02	1.031
	3.02	0.952
	3.02	0.976

	3.02	0.989
	3.02	0.909
	3.02	0.901
	3.02	0.922
	3.02	0.946
	3.02	0.937
	3.02	0.970
	3.02	0.903
	3.02	0.934
	3.02	0.915
Park et al.2021 ⁸	0.5	1.155
	0.5	1.280
	0.5	1.193
	0.5	1.092
	0.5	1.005
	0.5	0.881
	0.5	0.895
	0.5	0.956
	0.5	1.031
	0.5	1.144
	0.5	1.092
	0.5	1.915
	0.5	1.205
	0.5	1.130
	0.5	1.216
	0.5	1.629

	1.0	1.759
	1.0	1.717
	1.0	1.727
	1.0	1.852
	1.5	1.664
	1.5	1.626
	1.5	1.652
	1.5	2.100
	1.5	2.088
	1.5	1.453
	1.5	1.702
	1.5	1.652
	1.5	1.603
	1.5	1.802
	1.5	1.540
	1.5	1.502
	2.0	1.577
	2.0	1.392
	2.0	1.938
	2.0	1.826
	2.0	1.727
	2.0	1.739
	2.0	1.629
	2.0	1.591
Guo et al.2020⁹	0	0.390
	0	0.508

0	0.332
0	0.332
0	0.469
0	0.508
0	0.529
0	0.351
0	0.293
0	0.469
0	0.214
0.5	0.940
0.5	0.862
0.5	0.804
0.5	0.862
0.5	0.901
0.5	0.862
0.5	0.843
0.5	0.804
0.5	0.783
0.5	0.961
1	1.079
1	0.783
1	0.901
1	0.961
1	0.922
1.5	0.341
1.5	0.214

	1.5	0.469
	1.5	0.665
	1.5	0.547
	1.5	0.862
	1.5	0.665
	1.5	0.980
	2	0.725
	2	0.626
	2	0.529
	2	0.647
	2	0.862
	2	0.744
	2	0.765
	3	0.704
	3	0.647
	3	0.311
	3	0.429
	3	0.233
	3	0.390
	3	0.390
	3	0.253
	3	0.154
	3	0.057
	3	0.135
Meng et al.2018 ¹⁰	0	0.066
	0	0.144

0	0.195
0	0.241
0	0.269
0	0.426
0	0.412
0	0.380
0	0.555
0	0.634
0	0.643
0	0.694
0	0.804
0	0.957
0	1.109
0	1.151
0	0.943
0	1.003
0	0.994
0	0.666
0	0.712
0.5	0.629
0.5	0.662
0.5	0.666
0.5	0.643
0.5	0.694
0.5	0.680
0.5	0.703

0.5	0.708
0.5	0.657
0.5	0.671
0.5	0.666
0.5	0.606
1	0.475
1	0.491
1	0.643
1	0.675
1	0.588
1	0.597
1	0.601
1	0.583
1	0.560
1	0.523
1	0.560
1	0.537
1.5	0.431
1.5	0.431
1.5	0.505
1.5	0.454
1.5	0.394
1.5	0.518
1.5	0.361
1.5	0.357
1.5	0.329

	1.5	0.398
	1.5	0.361
	2	0.385
	2	0.334
	2	0.352
	2	0.417
	2	0.320
	2	0.251
	2	0.297
	2	0.297
	2	0.324
	2	0.186
	2	0.246
	2	0.195
	2	0.209
	2	0.292
Marine anammox bacteria		
	3	0.053
	3	0.062
	3	0.067
	3	0.063
Yokota et al.2019⁶	3	0.069
	3	0.063
	3	0.058
	3	0.105
	3	0.125

3	0.125
3	0.146
3	0.115
3	0.162
3	0.115
3	0.141
3	0.183
3	0.193
3	0.240
3	0.318
3	0.375
3	0.442
3	0.572
3	0.552
3	0.608
3	0.458
3	0.505
3	0.570
3	0.411
3	0.183
3	0.245
3	0.229
3	0.318
3	0.370
3	0.422
3	0.484

3	0.650
3	0.552
3	0.702
3	0.687
3	0.723
3	0.754
3	0.795
3	0.837
3	0.936
3	1.013
3	1.065
3	1.102
3	1.169
3	1.117
3	1.050
3	0.884
3	0.993
3	1.159
3	1.086
3	1.216
3	1.372
3	1.278
3	1.258
3	1.024
3	1.237
3	1.304

	3	1.397
	3	1.289
Wei et al.2016 ⁷	3	0.539
	3	0.539
	3	0.533
	3	0.533
	3	0.527
	3	0.604
	3	0.611
	3	0.592
	3	0.563
	3	0.545
	3	0.551
	3	0.539
	3	0.604
	3	0.551
	3	0.557
	3	0.557
	5	0.467
	5	0.455
	5	0.481
	5	0.461
	5	0.557
	5	0.539
	5	0.563
	5	0.539

5	0.604
5	0.568
5	0.563
3	0.552
3	0.572
3	0.568
3	0.587
3	0.580
3	0.592
3	0.575
3	0.587
3	0.407
7.5	0.389
7.5	0.419
7.5	0.365
7.5	0.449
7.5	0.359
7.5	0.348
7.5	0.324
7.5	0.401
7.5	0.329
7.5	0.312
7.5	0.257
7.5	0.276
7.5	0.245
7.5	0.269

7.5	0.245
7.5	0.228
7.5	0.240
7.5	0.204
7.5	0.222
7.5	0.174
7.5	0.138
7.5	0.186
7.5	0.132
7.5	0.162
7.5	0.114
7.5	0.102
7.5	0.090
7.5	0.132
7.5	0.084
7.5	0.174
7.5	0.150
7.5	0.072
7.5	0.132
7.5	0.090
7.5	0.054
7.5	0.054
7.5	0.072
7.5	0.042

Table S4 Summary of short-term data of literatures for Spearman correlation analysis

Literature	Salinity	NRR	NH ₄ ⁺ -N _{inf}	NO ₂ ⁻ -N _{inf}	TN _{inf}	COD	HRT	pH	Temperature
	%	kg/(m ³ ·d)	mg/L	mg/L	mg/L	mg/L	h		°C
Park et al.2021⁸	0.5	1.155	97.370	89.094	186.464	0	3	7	31
	0.5	1.280	110.261	100.361	210.622	0	3	7	31
	0.5	1.193	123.640	113.782	237.422	0	3	7	31
	1.0	1.759	120.824	126.788	247.612	0	3	7	31
	1.0	1.717	123.580	130.309	253.889	0	3	7	31
	1.5	1.664	126.084	123.267	249.352	0	3	7	31
	1.5	1.626	135.943	141.576	277.519	0	3	7	31
	1.5	1.652	137.830	131.386	269.216	0	3	7	31
	2.0	1.577	120.451	125.380	245.831	0	3	7	31
	2.0	1.392	126.084	131.013	257.098	0	3	7	31
	2.5	1.398	139.464	141.949	281.412	0	3	7	31
	2.5	1.280	146.878	144.393	291.271	0	3	7	31
	2.5	1.432	128.197	130.309	258.506	0	3	7	31
Huuang et al.2021³	0.71	0.491	519.893	0	519.893	168.024	12	8	22
	0.71	0.795	517.468	0	517.468	165.063	12	8	22
	1.51	0.895	471.018	0	471.018	145.219	12	8	22
	1.51	0.905	479.509	0	479.509	146.573	12	8	22
	1.51	0.882	581.398	0	581.398	164.904	12	8	22
	3.02	1.0309	538.945	0	538.945	196.893	12	8	22
	3.02	1.0309	542.940	0	542.940	194.074	12	8	22
	0	0.411	513.805	0	513.805	0	12	7.8	25
	0	0.390	504.275	0	504.275	0	12	7.8	25

Guo et al.2020⁹	0.25	0.390	565.04	0	565.04	0	12	7.8	25
	0.25	0.529	524.53	0	524.53	0	12	7.8	25
	0.5	0.940	666.315	0	666.315	0	12	7.8	25
	0.5	0.862	615.085	0	615.085	0	12	7.8	25
	1	1.079	605.55	0	605.55	0	12	7.8	25
	1	0.783	524.53	0	524.53	0	12	7.8	25
	2	0.725	534.06	0	534.06	0	12	7.8	25
	2	0.626	554.315	0	554.315	0	12	7.8	25
	2.5	0.883	544.785	0	544.785	0	12	7.8	25
	2.5	0.586	504.275	0	504.275	0	12	7.8	25
	3	0.704	493.55	0	493.55	0	12	7.8	25
	3	0.647	504.275	0	504.275	0	12	7.8	25
	3	0.311	504.275	0	504.275	0	12	7.8	25
Meng et al.2018¹⁰	0	0.066	48.295	63.749	112.043	0	8	7.8	33
	0	0.144	53.593	70.743	124.337	0	8	7.8	33
	0.5	0.629	121.165	159.938	281.103	0	8	7.8	33
	0.5	0.661	127.167	167.860	295.027	0	8	7.8	33
	1	0.475	117.892	155.618	273.510	0	8	7.8	33
	1	0.491	119.217	157.366	276.583	0	8	7.8	33
	1.5	0.431	123.193	162.614	285.807	0	8	7.8	33
	1.5	0.431	119.841	158.190	278.030	0	8	7.8	33
	2	0.385	117.191	154.692	271.883	0	8	7.8	33
	2	0.334	115.243	152.121	267.363	0	8	7.8	33
	0.11	0.567	171.442	0	171.442	0	2.4	8	32
	0.11	0.781	173.213	0	173.213	0	2.4	8	32
	0.43	0.973	177	0	177	0	2.4	8	32

Li et al.2018¹¹	0.43	1.073	174.542	0	174.542	0	2.4	8	32
	0.43	1.106	183.345	0	183.345	0	2.4	8	32
	1.38	1.077	164.41	0	164.41	0	2.4	8	32
	1.38	0.822	149.904	0	149.904	0	2.4	8	32
	1.85	0.904	168.341	0	168.341	0	2.4	8	32
	1.85	0.802	153.392	0	153.392	0	2.4	8	32
	2.4	0.582	174.542	0	174.542	0	2.4	8	32
	2.4	0.747	174.099	0	174.099	0	2.4	8	32
Xing et al.2017⁵	0.8	0.681	193.987	195.462	29.489	0	11	7.8	32
	0.8	0.734	196.844	193.905	25.232	0	11	7.8	32
	1.3	0.301	205.357	227.235	130.473	0	11	7.8	33
	1.3	0.344	203.957	228.855	144.699	0	11	7.8	33
	1.8	0.446	177.409	198.141	89.699	0	11	7.8	34
	1.8	0.383	189.731	198.640	98.716	0	11	7.8	34
Yokota et al.2019⁶	3	0.05	181.802	18.490	201.279	0	7.5	7.5	38
	3	0.06	173.363	18.490	193.465	0	7.5	7.5	38
	3	0.07	181.802	17.865	201.904	0	7.5	7.5	38
Wei et al.2016⁷	3	0.539	89.810	117.700	207.509	0	8	7.4	25
	3	0.533	90.685	116.716	207.400	0	8	7.4	25
	5	0.467	88.825	119.559	208.384	0	8	7.4	25
	5	0.455	87.950	119.559	207.509	0	8	7.4	25
	5	0.481	87.950	117.700	205.650	0	8	7.4	25
	3	0.552	87.950	117.700	205.650	0	8	7.4	25
	3	0.572	86.966	120.434	207.400	0	8	7.4	25
	3	0.568	86.091	119.559	205.650	0	8	7.4	25
	7.5	0.389	88.825	118.575	207.400	0	8	7.4	25

7.5	0.419	87.950	118.575	206.525	0	8	7.4	25
7.5	0.365	88.825	117.700	206.525	0	8	7.4	25

Table S5 Summary of data of literatures for kinetic model analysis

Literature	Salinity %	NRR kg/(m ³ ·d)	
		value	average value
Park et al.2021 ⁸	0.5	1.155	1.21
	0.5	1.280	
	0.5	1.193	
	1.0	1.759	1.73
	1.0	1.717	
	1.5	1.664	1.66
	1.5	1.626	
	1.5	1.652	
	2.0	1.577	1.48
	2.0	1.392	
	2.5	1.398	1.37
	2.5	1.280	
	2.5	1.432	
Guo et al.2020 ⁹	0	0.411	0.4
	0	0.390	
	0.25	0.390	0.46
	0.25	0.529	
	0.5	0.940	0.9
	0.5	0.862	
	1	1.079	0.93
	1	0.783	

	2	0.725	0.68
	2	0.626	
	2.5	0.883	0.73
	2.5	0.586	
	3	0.704	0.55
	3	0.647	
	3	0.311	
	0	0.066	0.11
	0	0.144	
Meng et al.2018¹⁰	0.5	0.629	0.65
	0.5	0.661	
	1	0.475	0.48
	1	0.491	
	1.5	0.431	0.43
	1.5	0.431	
	2	0.385	0.36
	2	0.334	
Li et al.2018¹¹	0.11	0.567	0.68
	0.11	0.781	
	0.43	0.973	1.05
	0.43	1.073	
	0.43	1.106	
	1.38	1.077	1.03
	1.38	0.822	
	1.85	0.904	0.83
	1.85	0.802	

2.4	0.582	0.66
2.4	0.747	

Table S6 Data of literatures for correlation analysis between salinity and main functional bacteria analysis

Literatures	Salinity %	Main functional bacteria %						NRR kg/(m ³ ·d)
		Nitrosomonas	Nitrospira	Nitrosococcus	Kuenenia	Brocadia	Nitrospira	
Guo et al.2020 ⁹	0	13.8	0	0.00	18.50	0.00	0.00	0.38
	1	19.30	0	0.00	22.30	0.00	0.00	0.94
	2	25.50	0	0.30	31.00	0.00	0.00	0.75
	3	20.60	0	2.00	31.50	0.00	0.00	0.12
Wu et al.2019 ¹	0	0.8	0	0	45.7	0	0	6.7
	0.5	0.1	0	0	33.6	0	0	1.54
	1.5	0.4	0	0	35.12	0	0	1.58
	2	3.26	0	0	28.3	0	0	0.91
Liu et al.2020 ¹²	1	1.2	11.52	0	0	20.6	2.1	0.237
	1.5	2.9	2.06	0	0	0.6	11.52	0.230
Li et al.2018 ¹¹	0.11	1.7	2.17	0	0.03	0.04	0.07	0.84
	0.84	1.34	1.87	0	0.04	0.05	0.14	1.02
	1.38	0.77	0.96	0	0.12	0.01	0.25	0.98
	1.85	1.01	1.18	0	0.16	0.01	0.10	0.84
	2.4	0.65	0.87	0	0.16	0.01	0.10	0.37

Table S7 The nitrogen removal properties of anammox bacteria under different salinity conditions

Salinity	NH ₄ ⁺ -N _{inf}	NO ₂ ⁻ -N _{inf}	NO ₃ ⁻ -N _{inf}	NH ₄ ⁺ -N _{eff}	NO ₂ ⁻ -N _{eff}	NO ₃ ⁻ -N _{eff}	TN _{inf}	TN _{eff}	ΔNO ₂ ⁻ / ΔNH ₄ ⁺	HRT h	NRR kg/(m ³ ·d)			
											Value	Average value	Standard deviation	
Gel film														
0.01	46.73	64.93	6.84	35.89	43.49	5.72	118.50	85.10	1.98		0.033			
	45.83	65.85	8.32	34.82	45.59	6.59	120.00	87.00	1.84	24	0.033	0.033	0.00047	
	47.18	65.48	7.62	35.62	44.48	6.25	120.28	86.35	1.82		0.034			
0.08	44.02	58.63	10.07	1.84	5.47	7.91	112.72	15.22	1.26		0.098			
	43.77	63.77	11.60	2.02	8.15	7.01	119.14	17.18	1.33	24	0.102	0.100	0.00223	
	43.81	61.85	10.86	1.98	6.93	7.62	116.52	16.53	1.31		0.100			
0.5	45.78	64.55	14.80	2.69	7.98	21.35	125.13	32.02	1.31		0.093			
	46.74	64.04	20.50	4.25	6.24	20.45	131.28	30.94	1.36	24	0.100	0.097	0.00364	
	47.89	63.58	17.85	3.52	7.18	21.18	129.32	31.88	1.27		0.097			
1	49.32	64.80	23.10	8.68	10.26	26.57	137.22	45.51	1.34		0.092			
	44.00	63.05	27.09	7.10	12.98	28.76	134.14	50.35	1.36	24	0.084	0.089	0.00422	
	46.92	65.47	25.63	7.94	11.89	27.93	138.02	47.76	1.37		0.090			

2	45.72	63.58	36.26	15.26	21.53	31.46	145.56	68.25	1.38	24	0.077		
	48.34	65.54	36.42	16.93	22.69	35.74	150.30	75.36	1.36		0.075	0.075	0.00213
	47.82	65.27	35.95	17.48	24.73	33.78	149.04	75.99	1.34		0.073		
3	45.53	65.83	46.37	20.58	32.81	37.13	157.73	90.52	1.32		0.067		
	42.96	65.20	45.53	19.73	33.48	40.56	153.69	93.13	1.37	24	0.061	0.062	0.00427
	43.98	64.94	43.08	20.27	33.54	38.94	152	92.75	1.32		0.059		
Biofilm													
0.01	48.28	64.66	14.58	37.49	58.22	12.5	127.52	108.21	0.60		0.019		
	49.47	65.58	13.77	38.61	56.76	11.01	128.82	106.38	0.81	24	0.022	0.021	0.00160
	48.95	65.92	14.26	38.15	57.58	11.94	129.13	107.67	0.77		0.021		
0.08	54.73	69.92	14.15	21.44	27.36	9.20	138.80	58.00	1.28		0.081		
	52.08	66.74	14.15	24.25	29.99	7.60	132.97	61.84	1.32	24	0.071	0.076	0.00488
	53.76	66.85	14.59	22.93	28.84	8.63	135.20	60.40	1.23		0.075		
0.5	49.47	65.12	13.71	23.90	31.38	8.26	128.31	63.54	1.32		0.065		
	53.33	65.27	14.37	26.70	32.78	6.72	132.97	66.19	1.22	24	0.067	0.065	0.00177
	50.72	63.64	14.21	25.68	31.96	7.68	128.57	65.32	1.27		0.063		
1	51.23	62.02	13.82	29.85	34.17	4.03	127.07	68.05	1.30	24	0.059	0.059	0.00212

	54.73	64.04	12.61	31.25	33.50	5.12	131.37	69.88	1.30	0.061			
	50.95	61.85	13.57	30.38	33.96	4.76	126.37	69.10	1.36	0.057			
	50.58	61.41	13.16	33.04	38.71	3.21	125.14	74.96	1.29	0.050			
2	51.08	62.79	12.44	32.35	38.61	3.20	126.31	74.16	1.29	24	0.052	0.051	0.00134
	52.84	63.48	11.75	34.75	39.95	3.79	128.07	78.49	1.30	0.050			
	51.99	63.88	13.93	40.07	47.81	6.39	129.80	94.27	1.35	0.036			
3	56.13	66.58	13.77	42.47	48.87	7.16	136.48	98.50	1.30	24	0.038	0.036	0.00145
	52.79	63.74	13.81	40.69	47.31	6.93	130.34	94.93	1.36	0.034			

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