

Supplementary Material

Supplementary Figures and Tables

Fig. S1

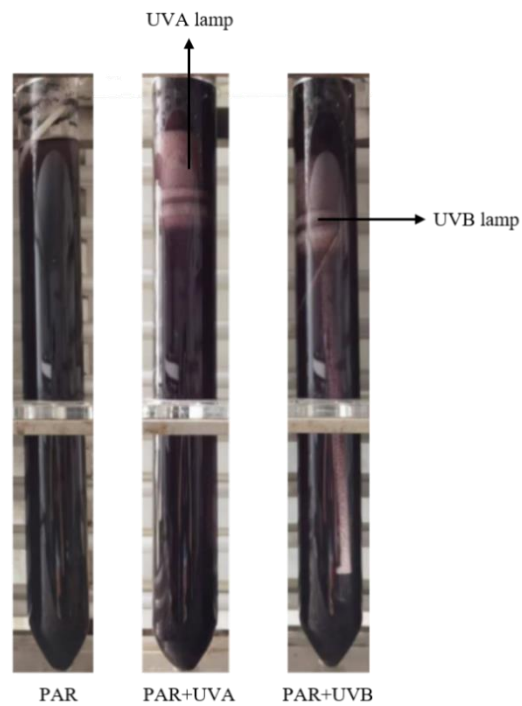


Figure S1 Scene picture of *Rhodospirillum rubrum* sp. SCSIO-45730 cultured in the present study.

Table S1

Table S1 Two-way analysis of variance for the effects of ocean acidification (OA) and UVR on pH, total alkalinity (TA), CO_2 , HCO_3^- and CO_3^{2-} . OA*UVR shows the interactive effects of OA and UVR

Treatments	df	F	Sig.
pH			
OA	1	3481.000	<0.01
UVR	2	0.250	0.787
OA*UVR	2	1.750	0.252
TA			
OA	1	306.684	<0.01
UVR	2	0.005	0.995
OA*UVR	2	0.096	0.910
CO_2			
OA	1	363.881	<0.01
UVR	2	0.022	0.935
OA*UVR	2	0.145	0.657
HCO_3^-			
OA	1	1193.733	<0.01
UVR	2	0.131	0.879
OA*UVR	2	0.599	0.579
CO_3^{2-}			
OA	1	3888.450	<0.01
UVR	2	0.322	0.736
OA*UVR	2	1.638	0.271

Notes: df, degree of freedom; F, F statistic value; Sig., *p* value

Table S2

Table S2 Two-way analysis of variance for the effects of ocean acidification (OA) and UVR on relative growth rate (RGR) of *Rhodospirillum rubrum* sp. SCSIO-45730. OA*UVR shows the interactive effects of OA and UVR

Treatments	df	F	Sig.
OA	1	116.216	<0.01
UVR	2	14.801	0.005
OA*UVR	2	2.234	0.188

Table S3

Table S3 Two-way analysis of variance for the effects of ocean acidification (OA) and UVR on Fv/Fm, photosynthetic efficiency (α), maximum relative electron transport rate (rETR_m), and light saturation point (I_k). OA*UVR shows the interactive effects of OA and UVR

Treatments	df	F	Sig.
Fv/Fm			
OA	1	1027.890	<0.01
UVR	2	159.516	<0.01
OA*UVR	2	13.990	<0.01
α			
OA	1	410.242	<0.01
UVR	2	21.178	<0.01
OA*UVR	2	5.105	0.051
rETR _m			
OA	1	27.181	<0.01
UVR	2	10.333	<0.01
OA*UVR	2	6.178	0.017
I_k			
OA	1	4588.926	<0.01
UVR	2	1749.322	<0.01
OA*UVR	2	942.767	<0.01

Table S4

Table S4 Two-way analysis of variance for the effects of ocean acidification (OA) and UVR on Chl a, Car, PE and PC contents. OA*UVR shows the interactive effects of OA and UVR

Treatments	df	F	Sig.
Chl a			
OA	1	158.405	<0.01
UVR	2	7.191	0.026
OA*UVR	2	0.165	0.851
Car			
OA	1	260.267	<0.01
UVR	2	13.025	<0.01
OA*UVR	2	0.275	0.769
PE			
OA	1	836.363	<0.01
UVR	2	14.452	0.111
OA*UVR	2	22.126	0.053
PC			
OA	1	47.357	<0.01
UVR	2	1.815	0.242
OA*UVR	2	0.451	0.657

Table S5

Table S5 Two-way analysis of variance for the effects of ocean acidification (OA) and UVR on carbohydrate, protein and total lipids contents. OA*UVR shows the interactive effects of OA and UVR

Treatments	df	F	Sig.
Carbohydrate			
OA	1	21.543	<0.01
UVR	2	6.445	0.032
OA*UVR	2	0.512	0.623
Protein			
OA	1	124.269	<0.01
UVR	2	12.630	<0.01
OA*UVR	2	0.038	0.963
Total lipids			
OA	1	22.564	<0.01
UVR	2	9.838	0.013
OA*UVR	2	2.476	0.164

Table S6

Table S6 Two-way analysis of variance for the effects of ocean acidification (OA) and UVR on TC, TN contents and TC/TN ratios. OA*UVR shows the interactive effects of OA and UVR

Treatments	df	F	Sig.
TC			
OA	1	120.284	<0.01
UVR	2	280.913	<0.01
OA*UVR	2	10.272	0.012
TN			
OA	1	2157.669	<0.01
UVR	2	180.773	<0.01
OA*UVR	2	11.396	<0.01
TC/TN			
OA	1	2006.177	<0.01
UVR	2	340.919	<0.01
OA*UVR	2	87.503	<0.01

Table S7

Table S7 Two-way analysis of variance for the effects of ocean acidification (OA) and UVR on SOD, CAT, CA and NR activities. OA*UVR shows the interactive effects of OA and UVR

Treatments	df	F	Sig.
SOD			
OA	1	4.230	0.085
UVR	2	7.925	0.021
OA*UVR	2	0.404	0.685
CAT			
OA	1	40.746	<0.01
UVR	2	58.218	<0.01
OA*UVR	2	9.057	0.015
CA			
OA	1	1519.495	<0.01
UVR	2	377.115	<0.01
OA*UVR	2	16.637	<0.01
NR			
OA	1	25.970	<0.01
UVR	2	103.847	<0.01
OA*UVR	2	14.174	<0.01

Table S8

Table S8 Two-way analysis of variance for the effects of ocean acidification (OA) and UVR on phenols content. OA*UVR shows the interactive effects of OA and UVR

Treatments	df	F	Sig.
Phenols			
OA	1	29.096	<0.01
UVR	2	15.825	<0.01
OA*UVR	2	5.813	0.039