**Electronic supplementary material (ESM): Photoacclimation and induction of light-enhanced calcification in the mesophotic coral *Euphyllia paradivisa***

Gal Eyal$^{1,2,*,#}$, Itay Cohen$^{2,3}$, Lee Eyal-Shaham$^{1,2}$, Or Ben-Zvi$^{1}$, Yaron Tikochinski$^{4}$, Yossi Loya$^{1}$

**Shallow-light**  
**Mesophotic-light**  
**Dark**

Figure 1s: One-year illustrative experimental set-up of the three different light conditions of the treated *Euphyllia paradivisa*, which simulate; (a) full-spectrum shallow-light, (b) blue mesophotic-light, and (c) deep-sea darkness environments. Each polyp was placed inside a separate two liters glass container with running seawater supply. $n = 10$ individual polyps in each treatment.
Figure 2s: Photosynthesis vs. irradiance curves (mean±SD) of net photosynthesis of the mesophotic coral *E. paradivisa* recorded in metabolic chambers after one year of incubation under shallow-light treatment, mesophotic-light treatment, simulating light at ~40 m depth), and total darkness. YSI dissolved O₂ delta measurements of 20 minutes incubation in metabolic chambers under increased light irradiance of 0 to 1500 µmol photons m⁻² s⁻¹. Orange lines represent shallow-light treated corals (triangles), blue lines represent mesophotic-light treated corals (squares), and grey lines represent dark treated corals (black diamonds). n = 4 individual polyps in each treatment (sampled from different colonies).

Table 1s: Species-specific primers for the four main *Symbiodinium* clades in scelarctinian corals, A, B, C and D that were designed, tested and used to identify the *Symbiodinium* clade in *E. paradivisa*.

| Clade | Primer   | Sequence                                      |
|-------|----------|------------------------------------------------|
| A     | SITA-405F| 5’-GTGAACCAATGGCCTCTTGTA-3’                   |
| A     | SITA-510R| 5’-CCTGATAACACAAGAGCAGCAG-3’                  |
| B     | SITB-77F | 5’-GGAAGGAGAAGTCGTAACAAGG-3’                  |
| B     | SITB-178R| 5’-CAAGCGTCCCTCACATCAA-3’                     |
| C     | SITC-616F| 5’-GCTTTGCGCGCTTTATT-3’                      |
| C     | SITC-729R| 5’-ACTTTGCTGACTTCATGCTAGAG-3’                 |
| D     | SITD-18F | 5’-ACTACGGTGAGGGACTGT-3’                      |
| D     | SITD-109R| 5’-ACAGCGCAGATCGAATATG-3’                     |