## <u>Supplemental electronic Material</u> <u>to</u> Heterogeneous ozonation kinetics of 4-phenoxyphenol in presence of photosensitizer

S. Net, L. Nieto-Gligorovski, S. Gligorovski\* and H. Wortham

## Figure captions (1S to 9S):

**Figure 1S:** Representative maleic acid formed during ozonolysis of 4-PP. A) under dark condition in function of time at ozone concentration  $\bigstar$ ): 1ppm,  $\blacklozenge$ ): 3ppm,  $\blacklozenge$ ): 6ppm and B) under solar light illumination of the silica surface in presence of 4-CB in function of time at ozone concentration  $\diamondsuit$ ): 500ppb,  $\blacklozenge$ ): 1ppm,  $\bigcirc$ ): 3ppm and  $\blacklozenge$ ): 6ppm

**Figure 2S:** Representative fumaric acid formed during ozonolysis of 4-PP under solar light illumination of the silica surface in presence of 4-CB in function of time at ozone concentration  $\diamond$ ): 500ppb,  $\blacklozenge$ ): 1ppm,  $\bigcirc$ ): 3ppm,  $\blacklozenge$ ): 6ppm

**Figure 3S:** Representative hydroquinone formed during ozonolysis of 4-PP. A) under dark condition in function of time at ozone concentration  $\star$ ): 250ppm,  $\diamond$ ): 500ppb,  $\blacklozenge$ ): 1ppm,  $\bigcirc$ ): 3ppm,  $\bullet$ ): 6ppm and B) under solar light illumination of the silica surface in presence of 4-CB in function of time at ozone concentration  $\star$ ): 60ppm,  $\star$ ): 250ppb,  $\diamond$ ): 500ppb,  $\blacklozenge$ ): 1ppm,  $\bigcirc$ ): 3ppm and  $\bullet$ ): 6ppm

**Figure 4S:** Representative catechol formed during ozonolysis of 4-PP. A) under dark condition in function of time at ozone concentration  $\star$ ): 250ppm,  $\diamond$ ): 500ppb,  $\blacklozenge$ ): 1ppm,  $\bigcirc$ ): 3ppm,  $\bullet$ ): 6ppm and B) under solar light illumination of the silica surface in presence of 4-CB in function of time at ozone concentration  $\star$ ): 60ppm,  $\star$ ): 250ppb,  $\diamondsuit$ ): 500ppb,  $\blacklozenge$ ): 1ppm,  $\bigcirc$ ): 3ppm and  $\bullet$ ): 6ppm

**Figure 5S:** Representative benzoic acid formed during ozonolysis of 4-PP. A) under dark condition in function of time at ozone concentration  $\diamond$ ): 500ppb,  $\blacklozenge$ ): 1ppm,  $\bigcirc$ ): 3ppm,  $\spadesuit$ ): 6ppm and B) under solar light illumination of the silica surface in presence of 4-CB in function of time at ozone concentration  $\bigstar$ ): 60ppm,  $\bigstar$ ): 250ppb,  $\diamondsuit$ ): 500ppb,  $\blacklozenge$ ): 1ppm,  $\bigcirc$ ): 3ppm and  $\blacklozenge$ ): 6ppm

**Figure 6S:** Representative 4-hydroxybenzoic acid formed during ozonolysis of 4-PP. A) under dark condition in function of time at ozone concentration $\bigcirc$ ): 3ppm, ●): 6ppm and B) under solar light illumination of the silica surface in presence of 4-CB in function of time at

ozone concentration  $\Rightarrow$ ): 60ppm,  $\star$ ): 250ppb,  $\diamondsuit$ ): 500ppb,  $\blacklozenge$ ): 1ppm,  $\bigcirc$ ): 3ppm and  $\bullet$ ): 6ppm

**Figure 7S:** Representative 4,4'-dioxyphenol formed during ozonolysis of 4-PP. A) under dark condition in function of time at ozone concentration  $\star$ ): 250ppb,  $\diamond$ ): 500ppb,  $\diamond$ ): 1ppm,  $\bigcirc$ ): 3ppm,  $\bullet$ ): 6ppm and B) under solar light illumination of the silica surface in presence of 4-CB in function of time at ozone concentration  $\star$ ): 60ppm,  $\star$ ): 250ppb,  $\diamond$ ): 500ppb,  $\diamond$ ): 1ppm,  $\bigcirc$ ): 1ppm,  $\bigcirc$ ): 3ppm and  $\bullet$ ): 6ppm

**Figure 8S:** Representative 2-(4-Phenoxyphenoxy)-4-phenoxyphenol formed during ozonolysis of 4-PP. A) under dark condition in function of time at ozone concentration  $\star$ ): 250ppb,  $\diamond$ ): 500ppb,  $\blacklozenge$ ): 1ppm,  $\bigcirc$ ): 3ppm,  $\blacklozenge$ ): 6ppm and B) under solar light illumination of the silica surface in presence of 4-CB in function of time at ozone concentration  $\star$ ): 60ppm,  $\star$ ): 250ppb,  $\diamondsuit$ ): 500ppb,  $\blacklozenge$ ): 1ppm,  $\bigcirc$ ): 3ppm and  $\blacklozenge$ ): 6ppm

**Figure 9S:** Representative 4-[4-(4-Phenoxyphenoxy)phenoxy]phenol formed during ozonolysis of 4-PP. A) under dark condition in function of time at ozone concentration $\diamondsuit$ ): 500ppb,  $\blacklozenge$ ): 1ppm,  $\bigcirc$ ): 3ppm,  $\blacklozenge$ ): 6ppm and B) under solar light illumination of the silica surface in presence of 4-CB in function of time at ozone concentration $\diamondsuit$ ): 500ppb,  $\blacklozenge$ ): 1ppm,  $\bigcirc$ ): 3ppm and  $\blacklozenge$ ): 6ppm

2-(4-Phenoxyphenoxy)-4-phenoxyphenol or 4-[4-(4-Phenoxyphenoxy)phenoxy]phenol

**Figure 10S:** Ozonolysis of 4-PP without solar irradiation and  $\bullet$ ): in absence of 4-CB,  $\bigcirc$ ): in

presence of 4-CB



Figure 1S

Net et al., 2009



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Net et al., 2009



Figure 2S

Net et al., 2009



Figure 3S

Net et al., 2009



Figure 3S

Net et al., 2009



Figure 4S

Net et al., 2009



Figure 4S

Net et al., 2009



Figure 5S

Net et al., 2009



Figure 5S

Net et al., 2009



Figure 6S

Net et al., 2009



Figure 6S

Net et al., 2009



Figure 7S

Net et al., 2009



Figure 7S

Net et al., 2009



Figure 8S

Net et al., 2009



Figure 8S

Net et al., 2009



Figure 9S

Net et al., 2009



Figure 9S

Net et al., 2009



Figure 10S

Net et al., 2009