Electronic Supplementary Material (ESI) for Photochemical & Photobiological Science
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Supporting Information:

"Photodegradation of methyl orange and photoinactivation of bacteria by visible light activation of persulphate using tris(2,2′-bipyridyl)ruthenium(II) complex"

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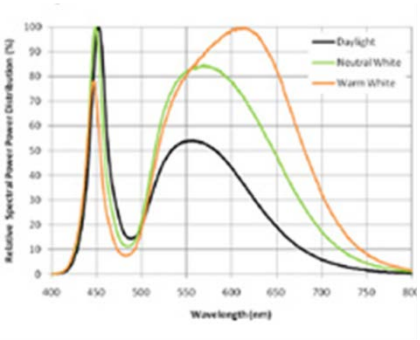

Fig. SI 1. (A) Emission spectrum of Warm white LED bulb (orange line) used for irradiation. http://www.kwalityindia.com/main.html

Colour	**Luminous Flux(lm) *(mW) @350mA**		**Luminous Flux(lm) *(mW) @700mA**		**Forward voltage Vf(v) @350mA**	**Forward voltage Vf(v) @700mA**	**Typ.CRI Color Rendering Index**	**CCT/λp**	**2θ1/2**
	min	typ	min	typ					
WW (warm white)	50	60	85	102	2.8-3.8	3.0-4.1	80	2600K-23700K	125

Temperature coefficient of Vf : -3 mV/˚C W,G,B,-2 mV/˚C R&A

Thermal Resistance junction to lead: 10˚C/W

*CCT- correlated color temperature

Source : http://www.kwalityindia.com/index.html

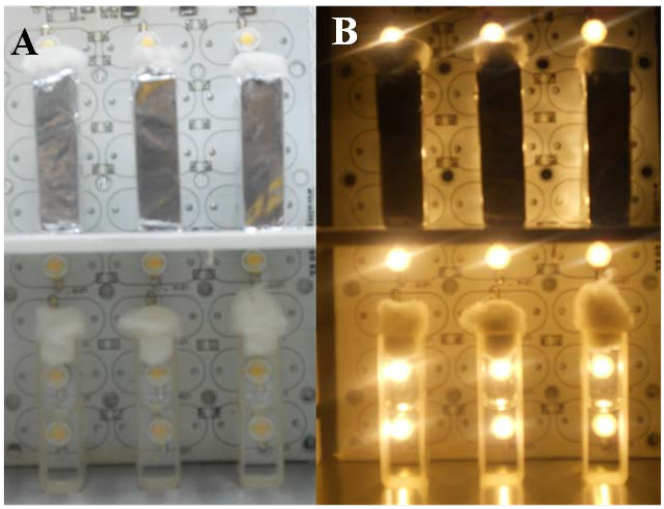

Fig. SI 2. Photograph of experimental set up of photolysis. Quartz cuvettes containing the reaction mixture are placed at appropriate distance from the array. For dark controls, the

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reaction vessels are covered with aluminium foil. (A) LED bulbs are switched off (B) LED bulbs are switched on.

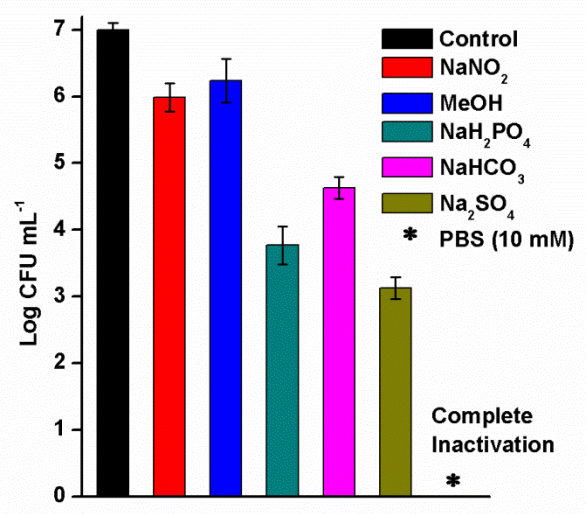

Fig. SI 3. (A) Cell viability of *E.coli* in the presence of radical scavengers and inorganic salts. Methanol (0.1 M), and Sodium nitrite (0.02M) Na_2HPO_4(0.1 M), Na_2SO_4(0.1 M) and $NaHCO_3$(0.1 M) *E.coli* concentration = ~10^7 cfu mL^{-1}, [persulphate] = 2mM, [complex1] = 1µM, Light dosage = 513 Jcm^{-2}.

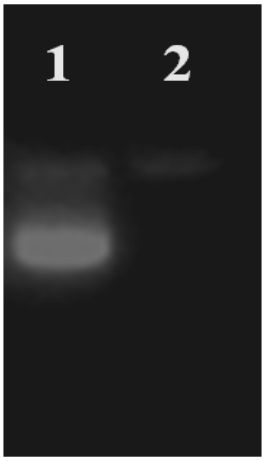

Fig. SI 4. Photograph of Agarose gel showing the extracted chromosomal DNA of *E. coli* treated with complex1 and persulphate in dark (control) Lane1, and in presence of light (Lane

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2) .*E.coli* concentration = ~10^7 cfu mL^{-1}, [complex1] = 1µM, [persulphate] = 2mM, Light dosage = 513 Jcm^{-2}.

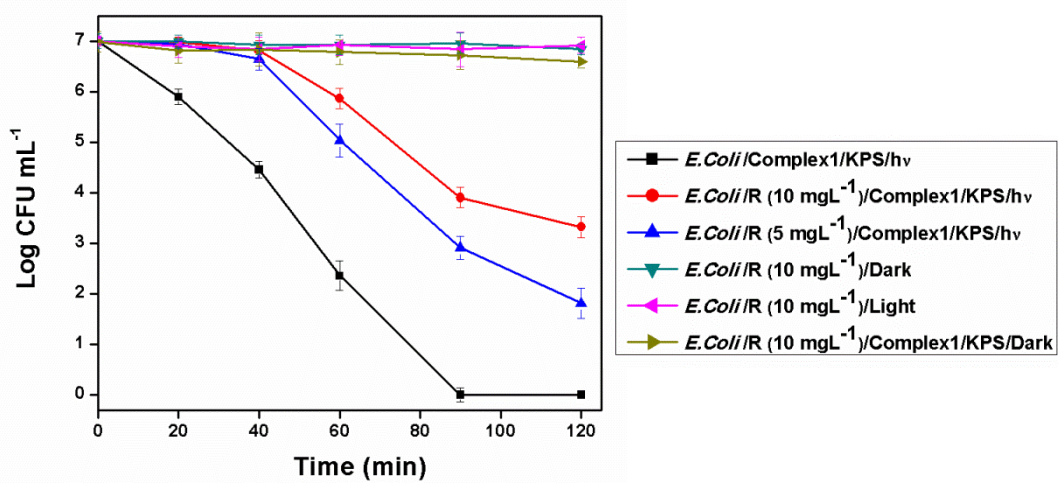

Fig. SI 5. Cell viability vs Time plot for photoinactivation of *E.coli* in absence, and presence of resorcinol (5 & 10 mg L^{-1}). *E.coli* concentration = ~10^7 CFU mL^{-1}, [complex1] = 1 µM, [persulphate] = 2 mM, Light dosage = 684 Jcm^{-2}.

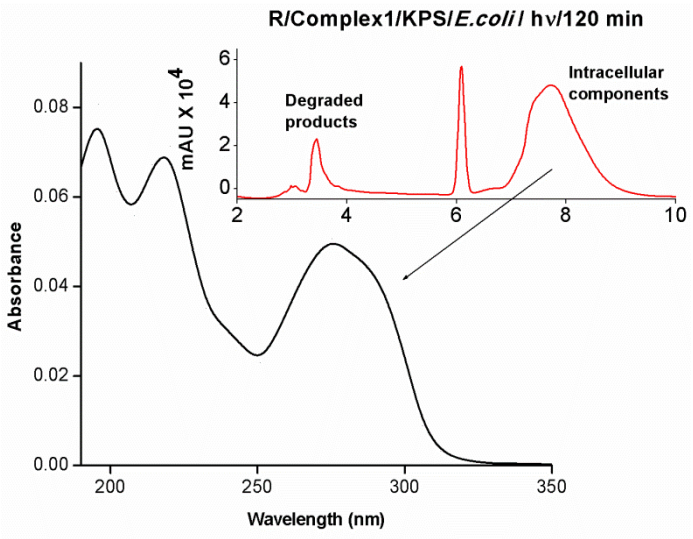

Fig. SI 6. Absorption spectrum of the peak at RT 7-8 min corresponding to the chromatogram of *E.coli* cells photolysed with complex1 and persulphate in the presence of resorcinol. Inset shows the HPLC profile. *E.coli* concentration = ~10^7 cfu mL^{-1}, [complex1] = 1µM, [persulphate] = 2mM, Resorcinol = 10 mgL^{-1} .Light dosage = 684 Jcm^{-2}.

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