Singlet oxygen mediated mechanism

\[ ^{3}\text{RB} + \text{O}_2 \rightarrow \text{RB} + {^{1}\text{O}_2} \]  
\[ {^{1}\text{O}_2} + \text{histidine} \rightarrow \text{oxidized histidine} \]  
\[ \text{oxidized histidine} + \text{lysine} \rightarrow \text{protein-protein crosslink} \]

Oxygen-independent, radical coupling mechanism

\[ ^{3}\text{RB} + \text{AA} \rightarrow \text{RB}^+ + \text{AA}^- \]  
\[ 2\text{AA}^- + 2\text{H}^+ \rightarrow 2\text{HAA}^- \rightarrow \text{protein-protein crosslink} \]

Oxygen-requiring radical mechanism

\[ \text{AA}^- + \text{O}_2 \rightarrow \text{oxidized AA} \]  
\[ \text{oxidized AA} + \text{AA} \rightarrow \text{protein-protein crosslink} \]

Figure S3. Mechanistic steps leading from photoactivation of Rose Bengal to photo-crosslinks between proteins.