# Article information:

Development of a red absorbing Se-rhodamine photosensitizer and its application for bio-orthogonally activatable photodynamic therapy - Chemical Communications (RSC Publishing)  
<https://pubs.rsc.org/en/content/articlelanding/2019/cc/c9cc03018b>

# Article summary:

1. A new red absorbing Se-rhodamine photosensitizer (Se-NR) was synthesized and characterized.

2. The amine of Se-NR was masked as an azide to construct a bio-orthogonally activatable photosensitizer (Se-NR-Az).

3. The Staudinger reaction between the azide and a phosphine was used to activate the photocytotoxicity of Se-NR-Az.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article “Development of a red absorbing Se-rhodamine photosensitizer and its application for bio-orthogonally activatable photodynamic therapy” is a well written, comprehensive article that provides detailed information on the development of a new red absorbing Se-rhodamine photosensitizer (Se-NR) and its application for bio-orthogonally activatable photodynamic therapy. The authors provide evidence for their claims, such as the fact that porphyrins can easily form aggregates in aqueous media due to hydrophobic π–π interactions, which can lead to quenching of the electronically excited state, reducing the production of singlet oxygen. They also discuss how selenorhodamines are ideal photosensitizers for PDT due to their good water solubility, high absorption coefficients, and high singlet oxygen quantum yields. Furthermore, they explain how they used spirocyclization of rhodamine derivatives as a powerful technique for designing activatable photosensitizers by masking the amine of Se-NR as an azide to construct a bio-orthogonally activatable photosensitizer (Se-NR-Az). Finally, they discuss how the Staudinger reaction between an azide and a phosphine can be used to activate the photocytotoxicity of Se-NR-Az.

The article is reliable and trustworthy in terms of its content; however, it does not explore any potential risks associated with this type of therapy or present both sides equally when discussing other cancer therapies such as surgery, chemotherapy, and radiotherapy. Additionally, there is no mention of any possible counterarguments or unexplored points of consideration regarding this type of therapy or its potential applications. Furthermore, there is no discussion about any promotional content or partiality in regards to this type of therapy or its potential applications. All in all, while this article provides detailed information on the development and application of this new red absorbing Se-rhodamine photosensitizer for bioactivatable photodynamic therapy, it does not explore any potential risks associated with it nor does it present both sides equally when discussing other cancer therapies such as surgery, chemotherapy, and radiotherapy.

# Topics for further research:

* Potential risks of photodynamic therapy
* Comparison of photodynamic therapy to other cancer treatments
* Promotional content related to photodynamic therapy
* Partiality in regards to photodynamic therapy
* Counterarguments to photodynamic therapy
* Unexplored points of consideration for photodynamic therapy

# Report location:

<https://www.fullpicture.app/item/3c4c03e6c1c77209c1e542902dc6dc6b>