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Alkoxyamines for the in-situ generation of radicals as theranostic agents

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Alkoxyamines $R_1R_2NOR_3$ are able to undergo homolysis upon chemical activation to release a stable nitroxide $R_1R_2NO\bullet$, which can be used for DNP-MRI, and a transient alkyl radical $R_3\bullet$, which can be used for killing tumor cells. By combining diagnostic and therapeutic activities into a single low-molecular weight molecule, alkoxyamines are new theranostic tools. We have developed this concept recently, and proved that they are reliable and controllable sources of *in-situ* generated radicals able to exhibit interesting biological and imaging properties.

Biography

Paul Bremond has completed his PhD in chemistry in France, where he developed syntheses of several natural products. After being a postdoctoral associate at Harvard University, Cambridge, Ma, USA under the supervision of Prof. Yoshito Kishi, he was appointed Assistant Professor in Aix-Marseille Université. So far he has published more than 35 peer-reviewed papers in several fields of chemistry: organic, physical, radical and medicinal and one patent. He now focus on the synthesis of new alkoxyamines as theranostics agents.

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