PHOTODECAGING OF BORONIC AND BORINIC ACIDS UNDER UV-LIGHT IRRADIATION

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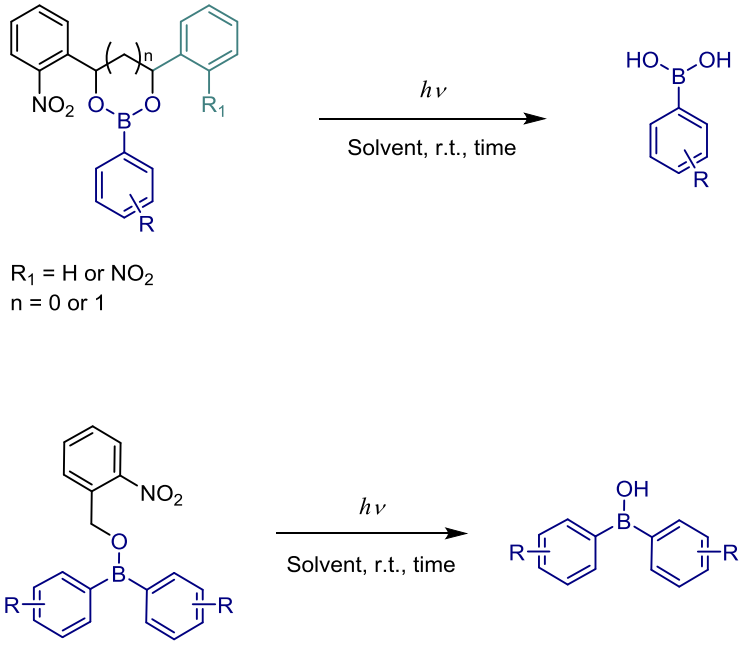
Photodecaging is a light-induced process of releasing a caged molecule from a caging group to produce an active molecule. To perform this type of reaction, a photolabile protecting group (PPG) is required and has to be introduced in a key location. Many PPGs have already been designed and nowadays, they find applications in various fields such as in organic synthesis, materials science and biology.[1,2] Several functional groups have already been protected/photodeprotected using PPGs but the decaging of boron derivatives has scarcely been studied before, except for boric acid, tris(pentafluorophenyl)borane and boron salt derivatives.[3,4,5] Considering this process, several arylboronic acids ($RB(OH)_2$) and diarylborinic acids (R_2BOH) were caged with photolabile protecting groups. The photodecaging process was then studied under UV-light irradiation. This strategy could allow to consider several applications such as: [1] photoinduced reactions or polymerizations; [2] drug delivery (*i.e.* bortezomib, tavaborole).



Scheme 1: Decaging of boronic and borinic acid derivatives

References

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