Biorthogonal dissociative reactions boast diverse potential applications in chemical biology and drug delivery. Specific cargo molecules within cells are released when benzonorbornadienes react with tetrazines to release amines from carbamate leaving groups. These carrier molecules are highly stable at physiological conditions, but react rapidly with tetrazines and near-quantitatively release cargo molecules such as drugs and optical reporters. The reactions are designed to take place without interfering with the existing cell chemistry and could serve a number of different purposes including DNA sequencing, cell imaging, drug delivery systems, and reaction protection groups.

- Allows use in cells, tissue samples, and in vivo.
- Increases reaction rate.
- Facilitates complete release of cargo molecules.
- Eliminates need for metal catalyst.
- Reduces toxicity.

**TECHNOLOGY SUMMARY**

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**IP PROTECTION**

Provisional Patent Filed

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