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| Preparation and evaluation of photoswitchable nucleic acids |
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| 10-23 Deoxyribozyme (DNAzyme) constructs with photoswitchable RNA-cleavage activities were prepared and evaluated (**Figure**). The photophysical properties of model photoswitchable oligonucleotides were evaluated and *meta*-phenyl azobenzene-appended oligomers shown to be the most thermally stable.  In attempting to improve upon the synthesis of azobenzene-modified oligonucleotides, a novel ball-milling route for chemoselective *N*-acylation in the absence of dipolar aprotic solvents typically employed for such reactions has been developed (**Scheme**).  **Figure.** Photoswitchable RNA cleavage  **Scheme**. Chemoselective *N*-acylation conditions using a ball-mill.  ***RNA***  ***10-23***  ***DNAzyme***  The development of more green approaches to nucleotide synthesis will also be described |
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