Photolabile linker
- easy access to peptide hydrazides and one-pot conversion into long natural peptides

Value Proposition/USP
1. Novel photolabile linker cleaved under mild conditions only using UV light
2. Enables solid-phase synthesis and mild release of peptide hydrazides
3. Enables solid-phase synthesis of long natural peptides with more than 30 amino acids

Business Opportunity/Objective/Commercial Perspectives
We are looking for a business partner who is manufacturing resins and linkers for solid-phase peptide, solid-phase organic, and solid-phase combinatorial synthesis. Probably the business partner is manufacturing a range of resins as well as linkers for the pharmaceutical industry, contract research organizations and universities. Currently there are only few photolabile linkers on the market, e.g. an Fmoc-photolabile linker providing peptide amides. There are currently no photolabile linkers on the market providing peptide hydrazides, which are very valuable building blocks in the synthesis of long natural peptides and proteins.

Technology Description/Technology Summary
Today it is not possible to synthesize peptides with more than 30 amino acids on solid-phase. Our novel photolabile linker provides solid-phase access to in-situ generated peptide hydrazides and direct one-pot conversion of these into long natural peptides or proteins. The one-pot ligation is only possible because we can cleave the peptide hydrazide from the resin without any use of interfering cleavage reagents, such as acid or base. Hence, our photolabile linker, cleaved under mild and neutral conditions only using UV light, is essential for the subsequent one-pot conversion of peptides hydrazides into long natural peptides. The photocleavable linker can also be used for solid-phase synthesis of pyranopyrazoles, being interesting scaffolds for combinatorial chemistry and drug discovery.

Development Phase/Current State
We have developed an efficient photolabile linker for solid-phase organic synthesis. The linker has been demonstrated for solid-phase synthesis of peptide hydrazides in high purities, for in-situ synthesis of peptide hydrazides and for direct one-pot conversion into longer natural peptides in high purities, as well as for the synthesis of pyranopyrazoles in high purities.

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