Claims

1. A method of tagging DNA-encoded chemical libraries, said method comprising:

(a) binding a first functional group of a bifunctional linker to a headpiece comprising an initiator oligonucleotide at the 5'-end of said initiator oligonucleotide, wherein said initiator oligonucleotide comprises a hairpin structure;

(b) binding a second functional group of the bifunctional linker to a first building block;

(c) reacting a second building block with said first building block; and

(d) binding an identifier region at the 3' end of said headpiece, wherein the identifier region encodes said second building block,

wherein the chemical reactions of the method, including step (c), are performed in organic solvent.

2. The method of claim 1, wherein the headpiece comprises an identifier region.

3. The method of claim 1, wherein said headpiece comprises a T or C nucleotide comprising an aliphatic chain at the C5 position.

4. The method of claim 1, wherein said identifier region of step (d) comprises a T or C nucleotide comprising an aliphatic chain at the C5 position.

5. The method of claim 1, wherein the method further comprises binding an identifier region at the 3'-end of said headpiece after step (b) and prior to step (c).