Microfluidics can be useful for synthesis and analysis of biochemicals. We demonstrate that microfluidics can dramatically improve the efficiency of these assays and screens. Driven by miniaturization and surface chemistry, microscale-chips allow the assays of clinically important biochemicals, with improved throughput, sensitivity and stability. Combined with nanoparticles and nano-materials, microfluidics show great promise in the synthesis and analysis of novel conjugates of biomolecules. For example, these platforms are also extraordinarily useful for the synthesis and analysis of therapeutics that can be potentially useful in the clinics, e.g., nanocarriers for introducing siRNA, CRISPR/Cas, and so forth.

Selected references: