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Supramolecular Chemistry

Supramolecular chemistry refers to the area of [chemistry](#) which focuses on the [noncovalent bonding](#) interactions of molecules. Traditional organic synthesis involves the making and breaking of covalent bonds to construct a desired molecule. In contrast, supramolecular chemistry utilizes far weaker and reversible noncovalent interactions, such as [hydrogen bonding](#), metal coordination, [hydrophobic forces](#), [van der Waals forces](#), [pi-pi interactions](#), and/or electrostatic effects to assemble molecules into multimolecular complexes. Important concepts that have been demonstrated by supramolecular chemistry include [molecular self-assembly](#), [molecular recognition](#), [host-guest chemistry](#), [mechanically-interlocked molecular architectures](#), and [dynamic covalent chemistry](#).

Supramolecular chemistries are being used to develop numerous novel tissue engineering constructs. Of particular interest, is that many supramolecular chemistries self assemble when added to water which allows them to solidify in the body.

More information at: http://en.wikipedia.org/wiki/Supramolecular_chemistry

