HAW TO IMMOBILIZE MORE SOLVENT? TOWARDS TUNABLE TWO-COMPONENT PHYSICAL GELS

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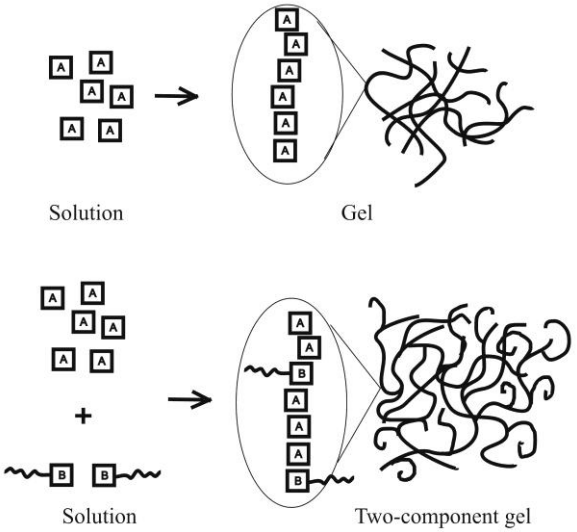
A two-component gel can be defined as a system in which an individual component can be present in an isotropic solution, and only the addition of the second component will actually form a gel. In some cases, however, systems containing a gelator and a second component that modifies its behaviour, and/or the properties of the gel can also be assumed to be two-component gels. Actually the essence of this definition is the necessity of co-operation on a molecular scale between two components for a new structure to form[1].

Two-component (+ solvent) gels are significantly rarer than single-component systems. Rough test shows over 400 milions hits for "gel" and only about 16 thousand hits for "two component gel" in google search. On the other hand, two-component systems have a vast degree of tunability. This allows designing of gels towards a novel form of functional gel-phase materials. The addition of a second compound [B] can modify the existing gel as it is shown on the picture below[2].



1 A. R Hirst,.; D. K. Smith, *Chem. Eur. J.*, *11*, 5496-550 *(*2005)

2 R. Luboradzki and Z. Pakulski, *Supramolecular Chemistry*, 21, 5, 379-383 (2009)