

### Simple fabrication of biocompatible gel for pressure sensitive adhesive

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Tannic acid, one of the most widely-used natural derived catechol compound, is utilized here by coordination bond with transition metals, mainly Ti(IV), to make stable gel-like structure. However, coordination bond cannot solely contribute to the gel-like structure to behave like an adhesive since the product has lack of cohesiveness. In order to compensate the weakness, introduction of a polymer, which is highly cohesive and have higher wettability to the target surface (with higher  $G''$ ) had been conducted. As a result, the Ti(IV)-tannic acid-polymer composite system has shown reasonable cohesiveness and adhesiveness by coordination bond between the metal and tannic acid and physical crosslinking(e.g., hydrogen bond) between the polymer resin and tannic acid. Since the system's behavior is distinct from the composite without the polymer or the tannic acid in terms of surface coverage, rheological behavior in high temperature, and tackiness, herein I concluded that the Ti(IV)-tannic acid-PEO composite can be utilized as a pressure sensitive adhesive(PSA) which is an adhesive material that does not involve in any reactions or require further treatment during the adhesion process.