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**Electrical Transport Through a Single Semiconductor Nanocrystal Tetrapod**

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Semiconductor nanocrystal tetrapods represent a unique complex nanostructure of interest for multiterminal electrical and electromechanical studies. We demonstrate by single electron transport measurements the electronic coupling between the nanotetrapod core quantum dot and the four arm quantum rods. Either ionic or covalent bonding-type of coupling can exist when the interaction between quantum dot at the junction and arm rods is weak or strong. In addition, we demonstrate a new integrated single electron transistor scheme enabled by the unique coupled nanotetrapod systems: one arm can be used as a sensitive arm-gate to control the electrical transport through the whole system. The work here reveals that nanotetrapods and other branched colloidal nanocrystals represent a new class of chemically controlled "artificial molecules" of coupled quantum dots.