

Studies of abnormal phenomena originated from evaluation of surface energy using LW-AB approach

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When evaluating interfacial energies between two solids in the LW-AB approach or in the extended DLVO approach, it needs at least three different liquids of contact angle. Among other liquids, water, formamide, and ethylene glycol are commonly used as polar liquids, and diiodomethane and α -bromonaphthalene are commonly used as apolar liquids. However, in many cases, the square root of surface tension components were often calculated to negative value. However, surface tension components were described as root, hence phenomena of surface tension components possessed negative number is not allowed. We examined this phenomena for several model solids and suggest a possible solution to avoid this problem.