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**Abstract:** Trichloro-, tribromo- and trifluoro- acetic acids were both conductimetrically and potentiometrically titrated in acetonitrile and 2-propanol media. The titrations were carried out at 25°C under nitrogen atmosphere and titrants used were the solutions of triethyl, di-n-butyl and n-butyl amines prepared in the same solvents. Whether these acids gave a homoconjugation reaction during titration was investigated by the use of conductimetric and potentiometric titration curves. In acetonitrile media trichloro- and tribromo-acetic acids decomposed to give chloroform and carbon dioxide, and bromoform and carbon dioxide respectively. It was observed that the acid concentration and the type of titrant used had no effect upon the decomposition reaction. However, trifluoroacetic acid was seen to give a homoconjugation reaction when three titrants mentioned above were employed. When all three acids were conductimetrically titrated with three different titrants in 2-propanol medium, in order to elucidate the role of the medium upon the homoconjugation and decomposition reactions, it was observed that they gave stoichiometric end-points and the tendency to give homoconjugation decreased in this medium. The potentiometric titration results also support the conductimetric titration data. It was observed that the strength of the acid is important in the homoconjugation reaction.

**Key Words:** Non-aqueous media, conductimetric titration, potentiometric titration, trifluoroacetic acid, trichloroacetic acid, tribromoacetic acid, acetonitrile, 2-propanol

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Turk. J. Chem., **27**, (2003), 77-84.

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