

THERMAL DECOMPOSITION STUDIES OF HYDRAZINIUM(1+) AND (2+) FLUOROMETALATES

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New hydrazinium complexes, $(N_2H_5)_2SiF_6$ and $N_2H_6(PF_6)_2$ were isolated and characterized by chemical analysis, X-ray diffraction patterns and vibrational spectra. Study of the thermal decomposition of hydrazinium salts can elucidate mechanism, intermediates and lead to the preparation of new compounds. Therefore, a series of hydrazinium(1+) and (2+) fluorometallates, $(N_2H_5)_2SiF_6$, $N_2H_6SiF_6$, $(N_2H_6)_2SnF_6F_2$, $N_2H_6(PF_6)_2$, $N_2H_6BeF_4$ and $N_2H_6TaF_7 \cdot H_2O$ was investigated by TG, DTG and DTA techniques. Their thermal behaviour and transformations are discussed. The separate intermediates, hydrazinium and/or ammonium fluorometallates were isolated and identified, among them new complexes, $N_2H_5PF_6$ and $N_2H_5TaF_6$.