

## **CO-PYROLYSIS OF TURKISH SOMA LIGNITE AND ŞIRNAK ASPHALTITE. ANALYSIS OF CO-PYROLYSIS PRODUCTS BY CAPILLARY GAS CHROMATOGRAPHY TOTAL STREAM SAMPLING TECHNIQUE**

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*Temperature-programmed co-pyrolysis of Turkish Soma lignites and Şirnak asphaltite was investigated with the aim to determine the volatile product distribution and product evolution rate of co-processing. A series co-pyrolysis operation was performed using three total carbon ratios of lignite to asphaltite. A fixed-bed reactor was used to pyrolyse small samples of mixtures under an inert gas (argon) flow. A special sampling technique was used for collecting organic products eluted from the reactor at different temperature and time intervals. The co-pyrolysis products were analyzed by capillary gas chromatography and the total product evolution rate was investigated as a function of temperature and time. n-Paraffins and 1-olefins in aliphatic fraction of pyrolysis products were classified by their carbon number. In addition, the recovery of total organic carbon as an organic volatile product was determined. The effect of Soma lignites and Şirnak asphaltite co-processing was determined by calculating the difference between the experimental and the hypothetical mean value of conversion of total organic carbon into volatile products.*