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Characterization of Extracted Keratin:

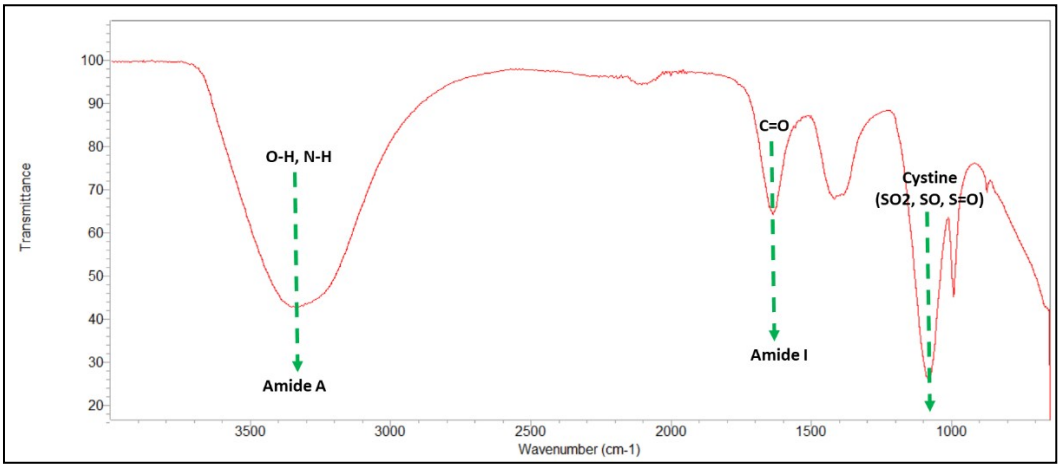

Fig. 1 FTIR analysis of the material remaining on the filter paper after the reaction.

Because of our optimized reduced human hair method, remaining materials on the filter paper after the reaction were also identified to show our method efficiency. When compared with the FTIR result obtained after the reaction, it is seen that there are no Amide II and Amide III peaks. In addition, there was not peak for $-C-H_2$, $-C-H_3$ which is observed around 2900 cm^{-1}.

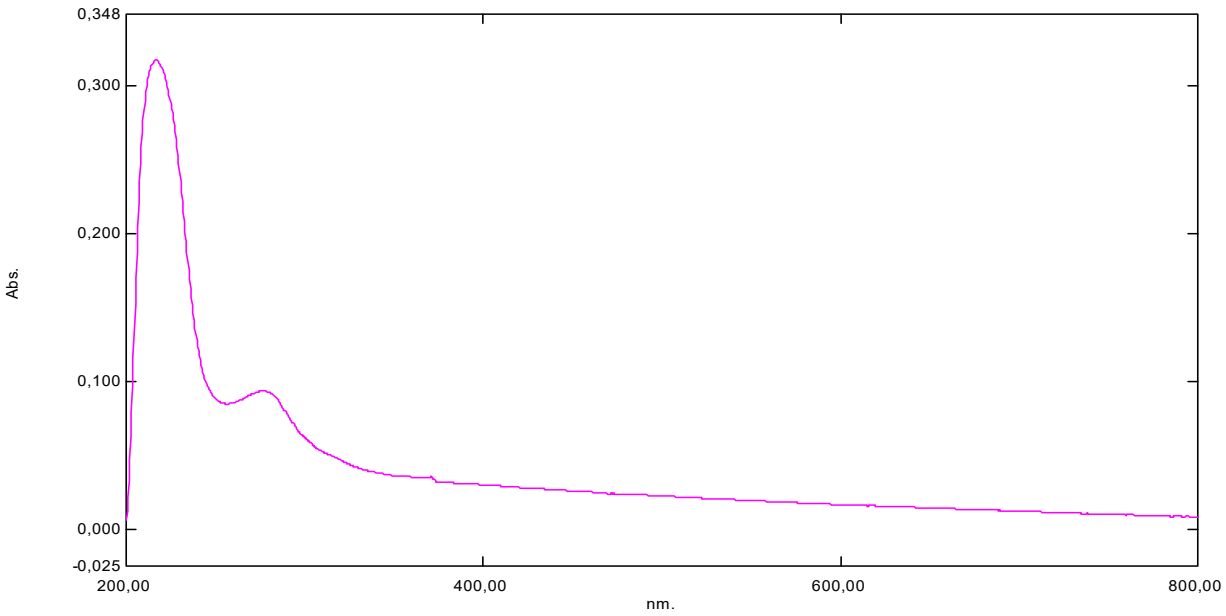

Fig. 2 UV-Vis spectra of extracted keratin from human hair.

When the UV-Vis spectra in -Fig. S2 was examined, the absorbance of the aromatic ring reported in the literature was seen around 276 nm. It confirmed that the presence of chromophores at amino acid residues such as tyrosine observed at 268 nm in the spectra. Tyrosine is one of the few amino acids found in UV active keratin and despite its moderate abundance in the amino acid sequence, it is possible to observe the absorption band significantly above the almost flat baseline for larger wavelengths.