USING THE EXTRAORDINARY INFRARED TRANSMISSION OF SURFACE PLASMON-MEDIATED METALLIC MICROARRAYS: INFRARED ABSORPTION ASSAY OF THE CATALYIC REACTION OF BENZYL ALCOHOL TO BENZYL BENZOATE ON NICKEL

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IR absorption has been recorded for the conversion of benzyl alcohol to benzyl benzoate on a nickel oxide surface by surface plasmon-mediated resonance. By activating the surface with OH groups, benzyl alcohol undergoes several intermediate steps that are recorded in time with benzyl benzoate forming the final product. Surface plasmon-mediated transmission resonance is a very sensitive technique that reveals dramatics changes at the metal-dielectric interface for the chemistry involved. Molecular absorption in the transmission spectra were analyzed to reveal those intermediate steps while obtaining an enhanced infrared absorption spectrum of benzyl benzoate.