

THE PREDICTION OF PHYSICAL COLOR MIXTURES OF OIL PAINTS DIGITALLY. *Julie Adameck and Roy S. Berns**, Department of Color Science, jma7628@cis.rit.edu, berns@cis.rit.edu

A pre-existing database of the spectral characteristics, including reflectance, of all colors of Gamblin's line of Artist's Oil Colors for wavelengths from 350 nm to 700 nm was used. To predict the results of mixing two or more of the colors, the Kubleka-Munk equations were used to convert reflectance values at each wavelength for each color into absorption over scattering ratios. These ratios were used to find the mixed absorption over scattering ratios, which were converted back to reflectance. In order to show these mixtures digitally, the reflectance values, both of the original colors and of the mixture, needed to be converted into XYZ values and then into RGB values for display. For the future, the accuracy of the digital mixtures will be tested by comparing them to physical mixtures made from Gamblin's line of Artist's Oil Colors.