minated for their increased carotene content as well as for their content of other vitamins (*1–5*).

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Deviations from Beer's Law in the Ultraviolet Absorption Spectra of Some Organic Compounds

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In the course of an orientation study of 3-substituted diphenyl ethers, deviations from Beer's law were observed in the absorption spectra of phenols and acetamino compounds derived from diphenyl ether.

Although instrumental deviations occurred at the high-intensity absorption bands, the major part of the deviations resulted from density values below 1.5, which are considered due to fluorescence (*1*). In an effort to trace the chromophore responsible for the deviations, absorption spectra were determined in various concentrations (0.002–0.00001 moles/l) for phenol, nitrobenzene, acetanilide, diphenyl ether, 4-nitrodiphenyl ether, and 3-acetaminodiphenyl ether. The results indicate that some of these substances show deviations from Beer's law in alcoholic solution even at these low concentrations. If instrumental deviations are disregarded, the largest anomalies are observed with phenol (Table 1). The deviations are believed to account at least in part for the discrepancies among the absorption values reported in the literature (λ_{min}, 236–241 mμ; log ε_{min} 1.69–2.0; λ_{max}, 262–274 mμ, log ε_{max} 3.1–3.3) (*2–5*). Acetanilide has λ_{max} 242 mμ (log ε 4.11), and nitrobenzene absorbs maximally at 260 mμ (log ε 3.90), λ_{min} 225 mμ (log ε 3.40). Both compounds show deviations only in high concentrations, and the absorption values agree with the literature (*6*).

TABLE 1

ABSORPTION SPECTRA OF PHENOL IN 95% ALCOHOL

Moles/liter	λ_{max_1}	log ε_{max_1}	λ_{min}	log ε_{min}	λ_{max_2}	log ε_{max_2}
0.00008	219	3.44	No absorption*		275	2.86
.00016	219	3.62	"	"	275	3.08
.00042	220	3.64	238	1.78	275	3.22
.00085	222	3.68	239	1.81	275	3.43
0.00212	225	3.00	240	0.67	272	3.05

* Between 235 and 258 mμ.

Contrary to published data (*7*) diphenyl ether gives absorption curves even in alcohol which show the characteristic fine structure, three sharp maxima at 265, 271, and 278 mμ, and three minima at 252, 267, and 276 mμ. Isosbestic points are observed at 260 and 280 mμ and small deviations from Beer's law in the region of the maxima (log ε_{max_1} 3.18–3.24, log ε_{max_2} 3.26–3.31, log ε_{max_3} 3.21–3.26).

Deviations in 3-acetaminodiphenyl ether (λ_{max} 277 mμ, λ_{min} 276 mμ) occur at the maximum, in 4-nitrodiphenyl ether (λ_{max} 302, λ_{min} 248) only over the region of the minimum.

It appears from the present data that deviations from Beer's law can occur also with diphenyl ethers and phenols in addition to hydrocarbons (*1*), acrylic acids, and esters (*8*), dyes, and other substances (*9*). The increasing number of compounds with concentration-dependent light absorption emphasizes the need for reporting of concentrations, which is unfortunately rarely done in the literature.

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Arginase Activity in Human Skin[1]

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Arginase activity in mammalian skin has been demonstrated by Greenstein (*1*), who found that the normal skin of mice contained about 1/10 the amount found in the liver, and roughly ½ that found in pigmented melanomata of the same animals.

In the present study it was attempted (1) to ascertain the presence of arginase in human skin, and (2) to determine its variations and distribution in normal skin and in cutaneous lesions.

Skin samples from fresh biopsies were crushed in a piston-cylinder apparatus, suspended in normal saline, and then incubated with manganous ion to activate the enzyme (*2*). Incubation was then carried out with arginine as a substrate for ½ hr, and the reaction stopped by the addition of sulfuric acid (*3*). The

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