Table II. Synthesis of Aromatic Nitriles

$$\mathrm{ArH} \xrightarrow{\mathrm{TTFA}} \mathrm{ArTl(OOCCF_3)_2} \xrightarrow[h\nu]{\text{aqueous KCN}} \mathrm{ArCN}$$

Substrate	Product	Yield, %[a]
Toluene	*p*-Tolunitrile	50[b]
Ethylbenzene	*p*-Cyanoethylbenzene	80[c]
o-Xylene	4-Cyano-*o*-xylene	53
m-Xylene	4-Cyano-*m*-xylene	27
p-Xylene	2-Cyano-*p*-xylene	46
Anisole	*p*-Cyanoanisole	70[d]
Benzyl methyl ether	*o*-Cyanobenzyl methyl ether	55
Phenylacetic acid	*o*-Tolunitrile	33

[a] Yields refer to the photolysis step. Yields in the thallation reaction are >90% and are detailed in ref 4. [b] The crude product contained 3% of the *ortho* isomer and 2% of the *meta* isomer, arising from the presence of the corresponding amounts of the *ortho* and *meta* isomers in the intermediate *p*-tolylthallium ditrifluoroacetate. [c] The crude product contained traces of the *meta* (3%) and *ortho* (1%) isomers. [d] The crude product contained 87% *p*-cyanoanisole and 13% *o*-cyanoanisole. One recrystallization gave the pure *para* isomer, mp 59°.

is in agreement with previous observations on the photochemically induced radical decomposition of thallium(III) phenylacetate.[14]

An important feature of both the phenol and the aromatic nitrile syntheses herein described is that the hydroxyl and cyano substituents enter the aromatic ring at the point of former attachment of the thallium atom. Clear evidence for this conclusion comes from a comparison of the isomer distributions of aryl iodides with the phenols and nitriles prepared from the same organothallium precursor. Since the position of thallation in a substituted benzene can be controlled,[2] the sequential processes of thallation followed by (a) treatment with lead tetraacetate followed by triphenylphosphine or (b) photolysis in aqueous potassium cyanide make possible the preparation of specifically substituted phenols and aromatic nitriles, respectively.

---

(14) J. K. Kochi and T. W. Bethea, III, *J. Org. Chem.*, **33**, 75 (1968).

(15) On leave from the University of South Africa. A grant from the Ernest Oppenheimer Memorial Trust and a travel grant from the C.S.I.R. (South Africa) are gratefully acknowledged.

Edward C. Taylor, H. W. Altland
R. H. Danforth, G. McGillivray[15]
Department of Chemistry, Princeton University
Princeton, New Jersey 08540

Alexander McKillop
School of Chemical Sciences, University of East Anglia
Norwich, England

Received December 3, 1969

Additions and Corrections

Pentacyclodecane Chemistry. VI. Acetolysis and Formolysis of Pentacyclo[5.3.0.0^{2,5}.0^{3,9}.0^{4,8}]dec-6-*d-syn*-6-yl Tosylate. Evidence for a Symmetrical Intermediate [*J. Amer. Chem. Soc.*, **91**, 3404 (1969)]. By WENDELL L. DILLING, RAYMOND A. PLEPYS, and ROGER D. KROENING, Edgar C. Britton Research Laboratory, The Dow Chemical Company, Midland, Michigan 48640.

On page 3404, ref 1 should read *J. Org. Chem.*, **34**, 2605 (1969).

On page 3405, the equation in footnote 12 should read: $k_1 = {}^1/_2[k_2 - (\ln x)/t]$.

Linear Enthalpy–Spectral Shift Correlations for 1,1,1,3,3,3-Hexafluoro-2-propanol [*J. Amer. Chem. Soc.*, **91**, 4019 (1969)]. By K. F. PURCELL J. A. STIKELEATHER, and S. D. BRUNK, Departments of Chemistry, Kansas State University, Manhattan, Kansas 66502, and Wake Forest University, Winston-Salem, North Carolina.

Equation 4 should read

$$\frac{A_0B_0v}{Q'} = \frac{B_0}{\Delta H} + \frac{1}{K\Delta H} \tag{4}$$

The entry for triethylamine in Table II should read as follows.

Base	Solvent	A_0,[a] *M*	B_0, *M*	*v*, ml	$-Q'$, kcal
Triethylamine	C_6H_{14}	0.01921	0.04173	201.2	42.91
		0.01902	0.1144	203.3	43.82
		0.01889	0.1596	204.6	44.10

Dichlorocarbene, Free or Complexed? Relative Reactivities of Free CCl_2 [*J. Amer. Chem. Soc.*, **91**, 6035 (1969)]. By P. S. SKELL and M. S. CHOLOD, Department of Chemistry, The Pennsylvania State University, University Park, Pennsylvania 16802.

In Table I isobutylene–tetramethylene should read tetramethylene–isobutylene. The following should be added to Table I.

Olefin pair	Reaction temp, °C	Olefin ratio	Dichlorocyclopropane ratio	*k/k*
cis-2-Butene–isobutylene	−127 ± 3	7.20[a]	1.28 ± 0.10	0.178 ± 0.03
cis-2-Butene–isobutylene	−152 ± 3	7.20[d]	1.00 ± 0.10	0.139 ± 0.02