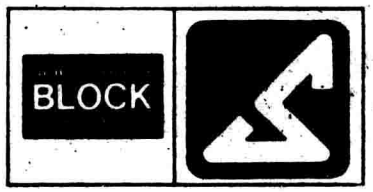
Standard Infrared Grating Spectra

Volume 43–44

42001 — 44000



SADTLER RESEARCH LABORATORIES, INC.

SADTLER STANDARD GRATING SPECTRA

UPDATE VOLUME -- REISSUED PRISM SPECTRA

CREATIVE CHEMISTS SINCE 1874

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The publication of the physical data of the Sadtler Standard Spectra and the Sadtler Commercial Spectra is intended to be descriptive. The samples of the materials represented have come generally from other sources than our own laboratories and frequently without the donors' knowledge of their part in this publication.

On the other hand every effort is made by Sadtler Research Laboratories, Inc. to assure the reliability of the published spectra. When improved data is available or errors are called to our attention we revise and reissue the proper replacement spectra.

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SADTLER STANDARD GRATING SPECTRA

UPDATE VOLUME -- REISSUED PRISM SPECTRA

This volume contains 1000 absorption spectra recorded on a prism spectrophotometer determined in the 2.0 - 15.0 micron region and presented in a linear wavelength vs. percent transmittance format. These spectra were previously published in the Sadtler Standard Prism Spectra collection and are now re-issued and renumbered in the sequence of the Sadtler Standard Grating Spectra to integrate all available infrared data for the user of this publication. While grating spectra are generally preferred by spectroscopists, it is obviously better to have a prism spectrum if it is the only data available.

The spectra were prepared at Sadtler Research Laboratories unless otherwise noted on the spectrum heading, the name of the donor of each compound is also shown on the heading. Although some of the spectra were published over ten years ago and do not always appear to be of optimum quality, they are included in the publication to insure complete coverage of published compounds.

Standard techniques have been developed in our laboratories to insure that the spectra published are of the best possible quality and reproducible for comparison and identification purposes. The preferred sample preparation methods are the capillary cell for liquids and the KBr wafer for solids, the spectra obtained are qualitative only. The KBr method is used for solids since it is a standard technique and requires a small sample amount for preparation of good spectra, leaving the remainder for further analytical investigation. A paper describing the preparation procedure entitled Improved KBr Techniques by Traude and Philip Sadtler is available from our laboratories.

When the KBr method cannot be used for solids due to reaction with the sample, the Split Mull technique is used; the sample is mulled in mineral oil and the entire spectrum is scanned, then a perfluorinated hydrocarbon mull is prepared and scanned in the 3.0 - 3.8 and 6.6 - 7.4 micron regions. This provides a complete spectrum of the compound.

Liquid samples and low melting solids are generally determined using capillary cells.

Each spectrum is clearly labelled with the sample preparation technique used.

The following five indexes accompany the Sadtler Standard Spectra:

Alphabetical Index
Molecular Formula Index
Chemical Classes Index
Numerical Index
Spec-Finder

In each of the first four indexes the grating spectrum numbers of compounds are cross-referenced to their corresponding numbers in the Sadtler Standard collections of Ultraviolet and Nuclear Magnetic Resonance Spectra. A reissued prism spectrum is always signified by a P suffix to the number in the grating column of each index.

The final index, the Spec-Finder, provides a means of identifying spectra of unknown compounds by comparison with the coded peaks of the references.

WE SUGGEST THAT THE INTRODUCTIONS TO THE VARIOUS INDEXES BE READ CAREFULLY TO ASSURE THEIR BEST UTILIZATION.

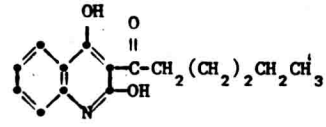
42001P

2,4-DIHYDROXY-3-QUINOLYL PENTYL KETONE

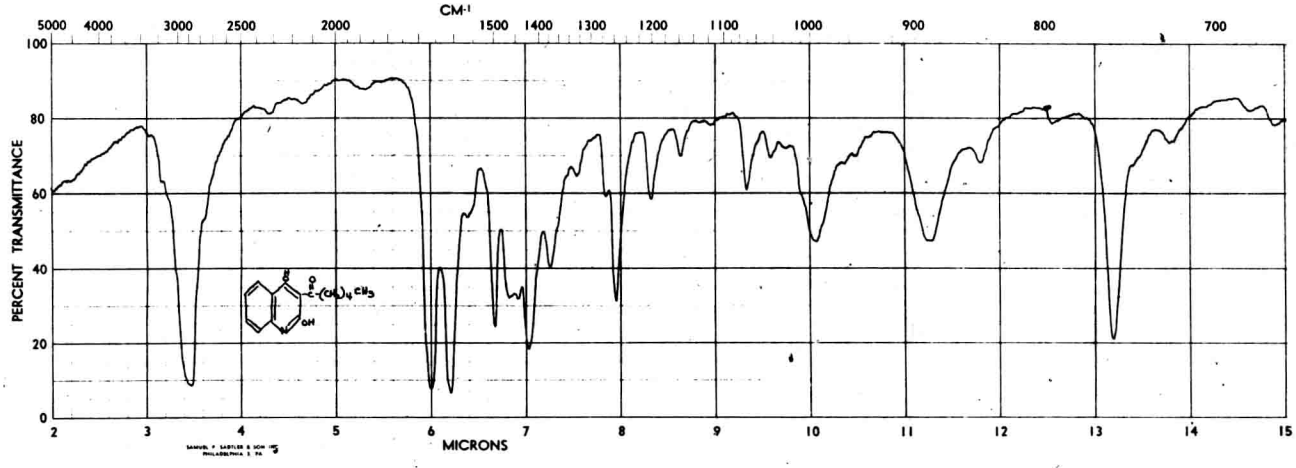
$C_{15}H_{17}NO_3$ Mol. Wt. 259.31

M.P. 183-184°C

Source of Sample: Ukita, University of Tokyo
Tokyo, Japan



Mulled in Mineral Oil



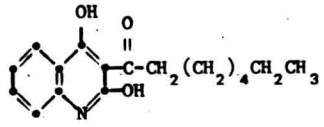
42002P

2,4-DIHYDROXY-3-QUINOLYL HEPTYL KETONE

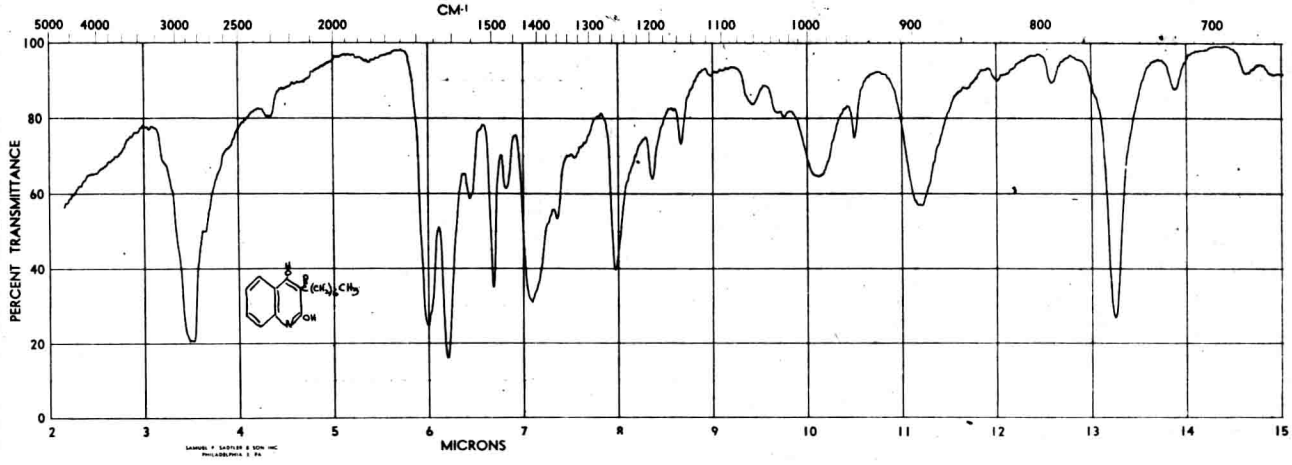
$C_{17}H_{21}NO_3$ Mol. Wt. 287.36

M.P. 168-169°C

Source of Sample: Ukita, University of Tokyo
Tokyo, Japan

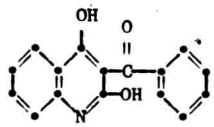


Mulled in Mineral Oil



42003P

2,4-DIHYDROXY-3-QUINOLYL PHENYL KETONE

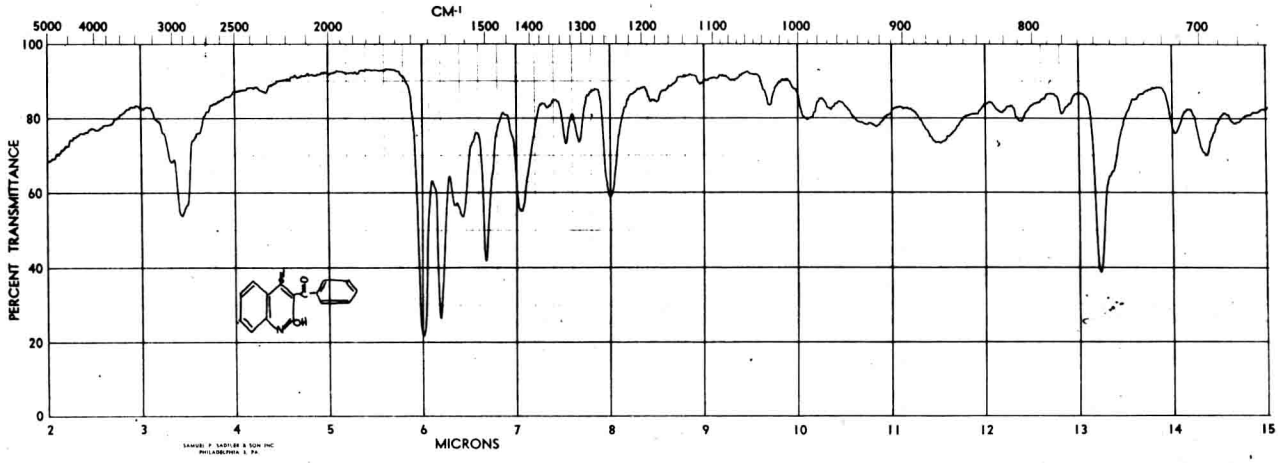


$C_{16}H_{11}NO_3$ Mol. Wt. 265.27

M.P. 258°C

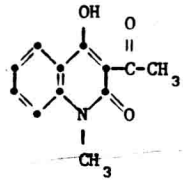
Source of Sample: Ukita, University of Tokyo
Tokyo, Japan

Nujol Mull



42004P

3-ACETYL-4-HYDROXY-1-METHYLCARBOSTYRIL

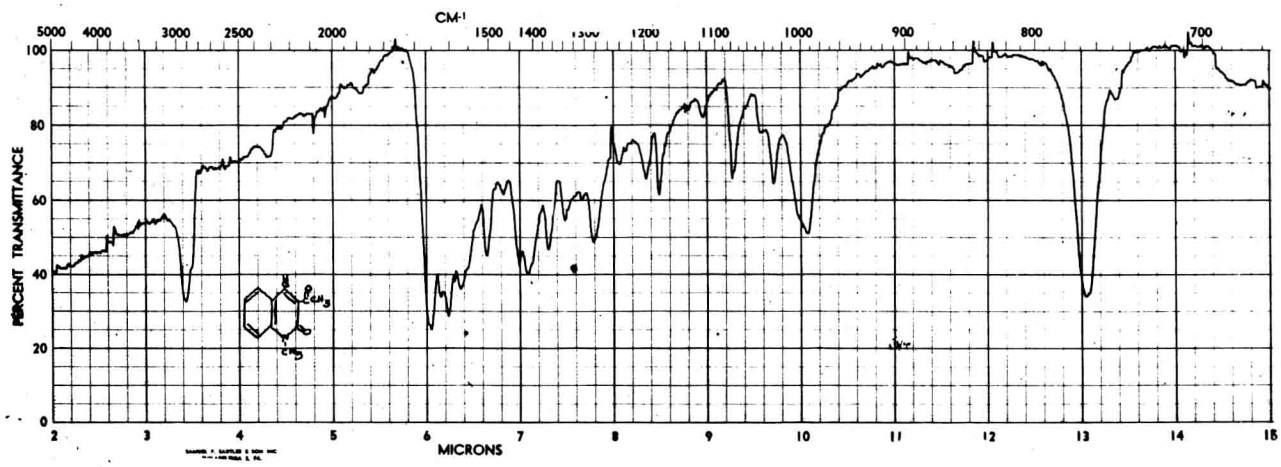


$C_{12}H_{11}NO_3$ Mol. Wt. 217.23

M.P. 142-144°C

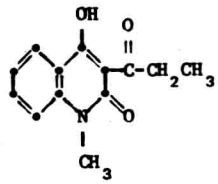
Source of Sample: Ukita, University of Tokyo
Tokyo, Japan

Nujol Mull



42005P

4-HYDROXY-1-METHYL-3-PROPIONYLCARBOSTYRIL

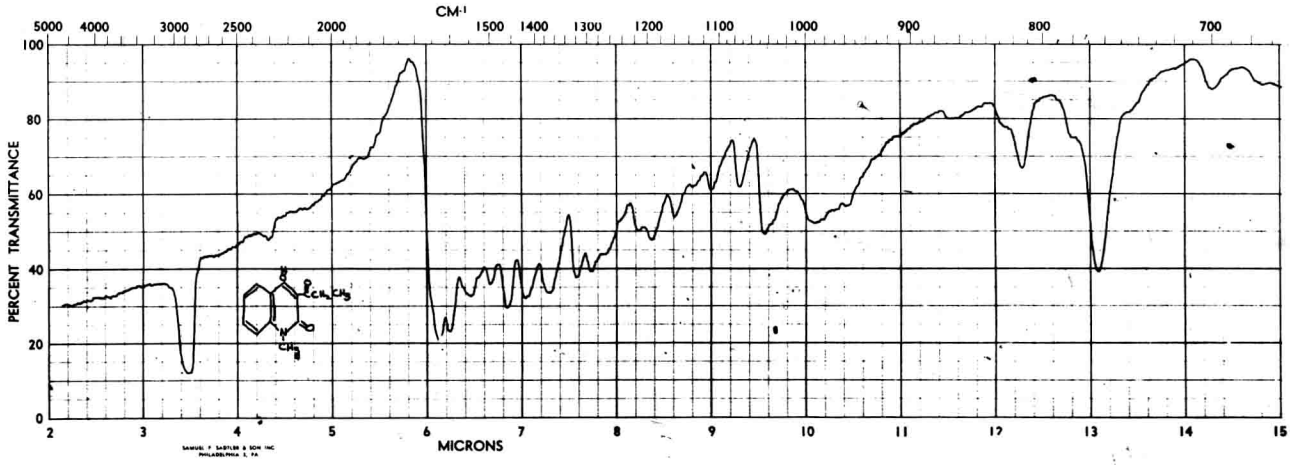


$C_{13}H_{13}NO_3$ Mol. Wt. 231.25

M.P. 150-151°C

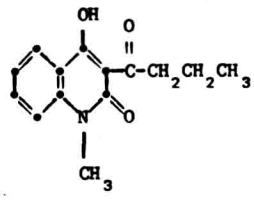
Source of Sample: Ukita, University of Tokyo
Tokyo, Japan

Nujol Mull



42006P

3-BUTYRYL-4-HYDROXY-1-METHYLCARBOSTYRIL

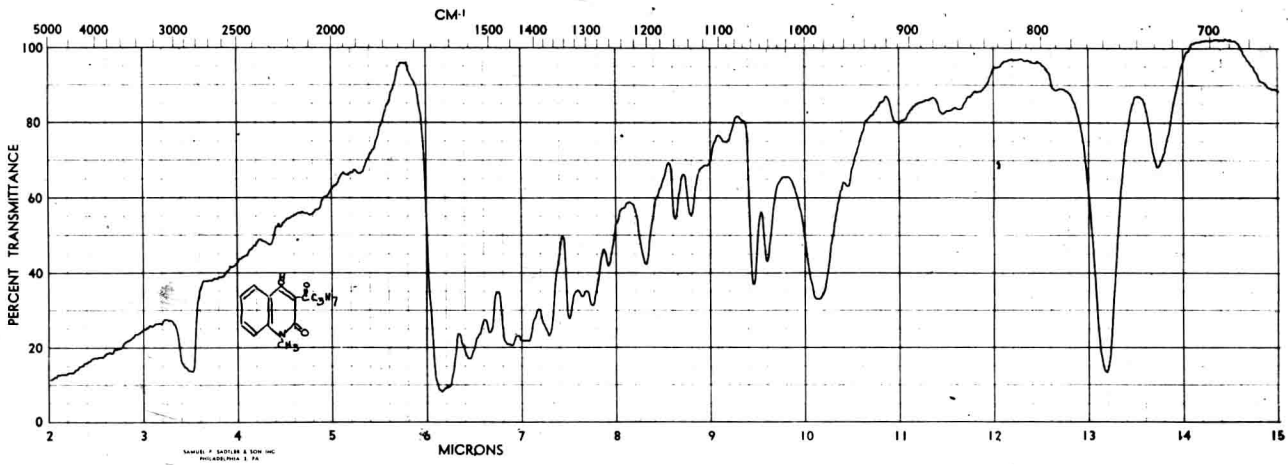


$C_{14}H_{15}NO_3$ Mol. Wt. 245.28

M.P. 97-98°C

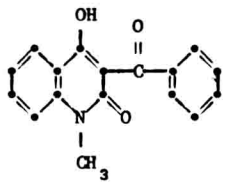
Source of Sample: Ukita, University of Tokyo
Tokyo, Japan

Nujol Mull



42007P

3-BENZOYL-4-HYDROXY-1-METHYLCARBOSTYRIL

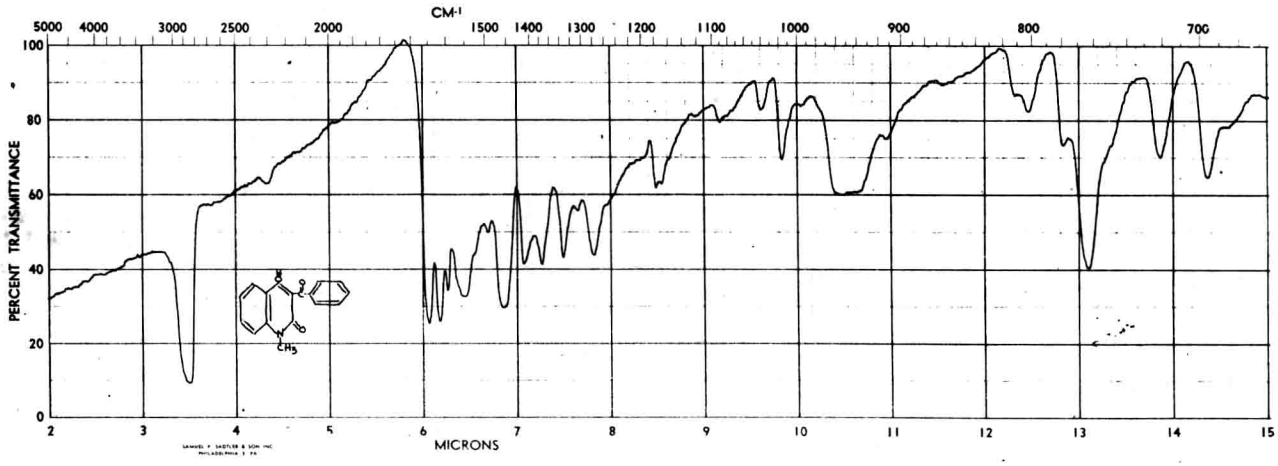


$C_{17}H_{13}NO_3$ Mol. Wt. 279.30

M.P. 182-184°C

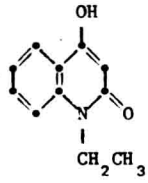
Source of Sample: Ukita, University of Tokyo
Tokyo, Japan

Nujol Mull



42008P

1-ETHYL-4-HYDROXYCARBOSTYRIL

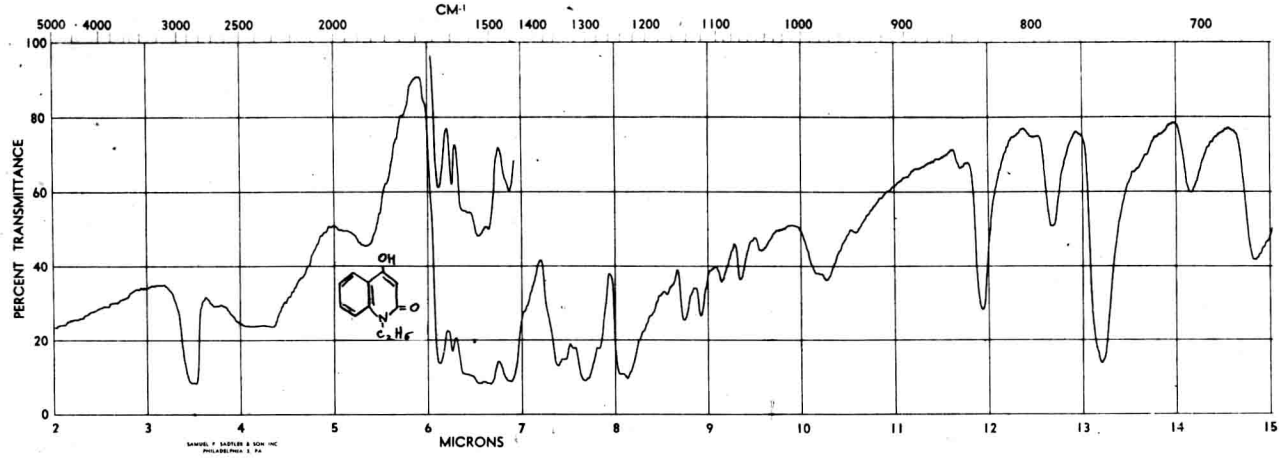


$C_{11}H_{11}NO_2$ Mol. Wt. 189.22

M.P. 262-264°C

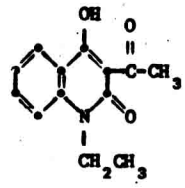
Source of Sample: Ukita, University of Tokyo
Tokyo, Japan

Nujol Mull



42009P

3-ACETYL-1-ETHYL-4-HYDROXYCARBOSTYRIL

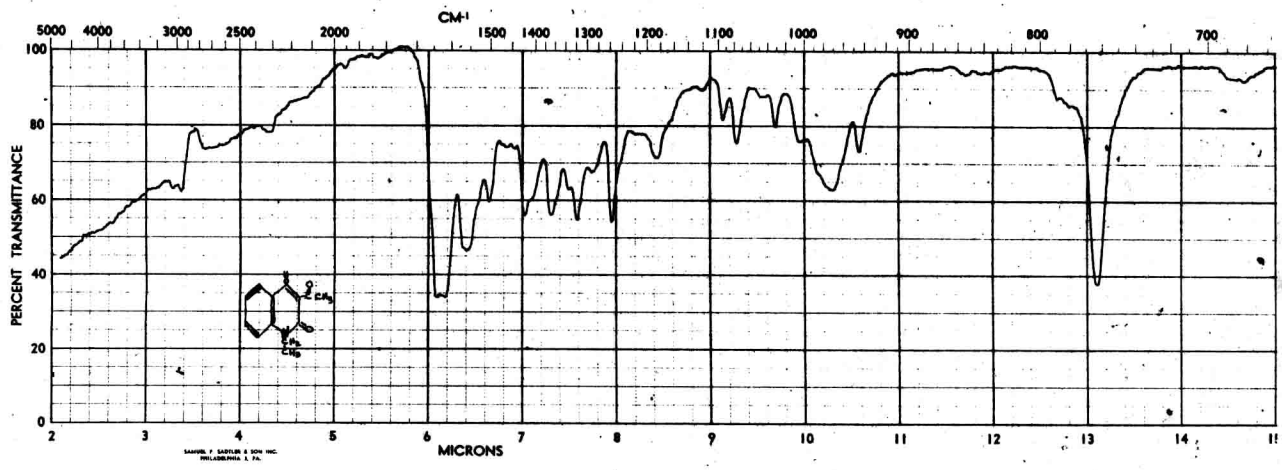


$C_{13}H_{13}NO_3$ Mol. Wt. 231.25

M.P. 115-117°C

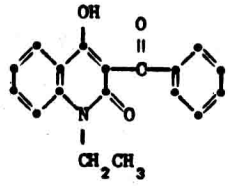
Source of Sample: Ukita, University of Tokyo
Tokyo, Japan

Nujol Mull



42010P

3-BENZOYL-1-ETHYL-4-HYDROXYCARBOSTYRIL

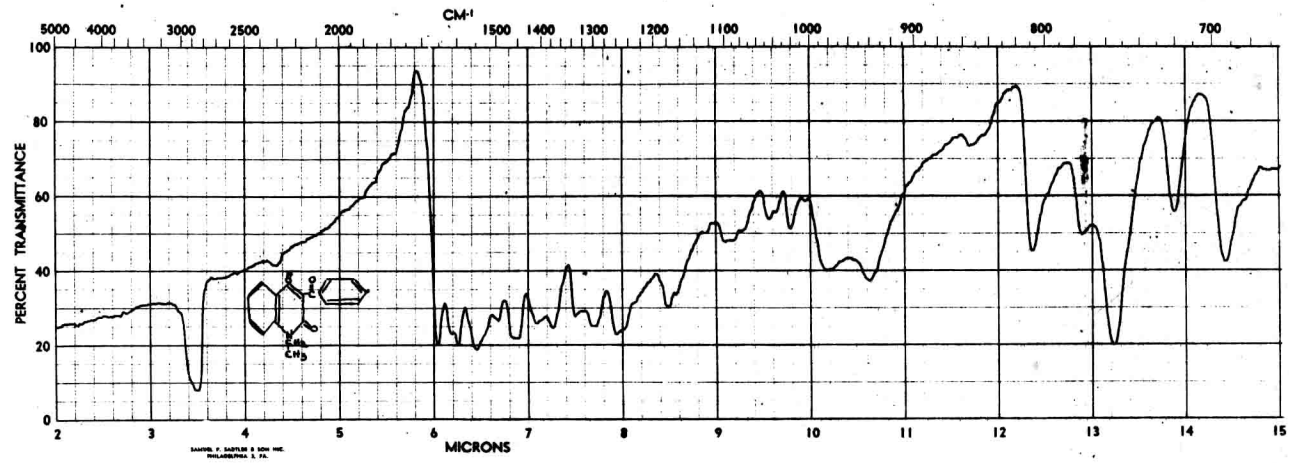


$C_{18}H_{15}NO_3$ Mol. Wt. 293.33

M.P. 135-136°C

Source of Sample: Ukita, University of Tokyo
Tokyo, Japan

Nujol Mull



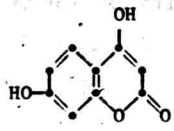
42011P

4,7-DIHYDROXYCOUMARIN

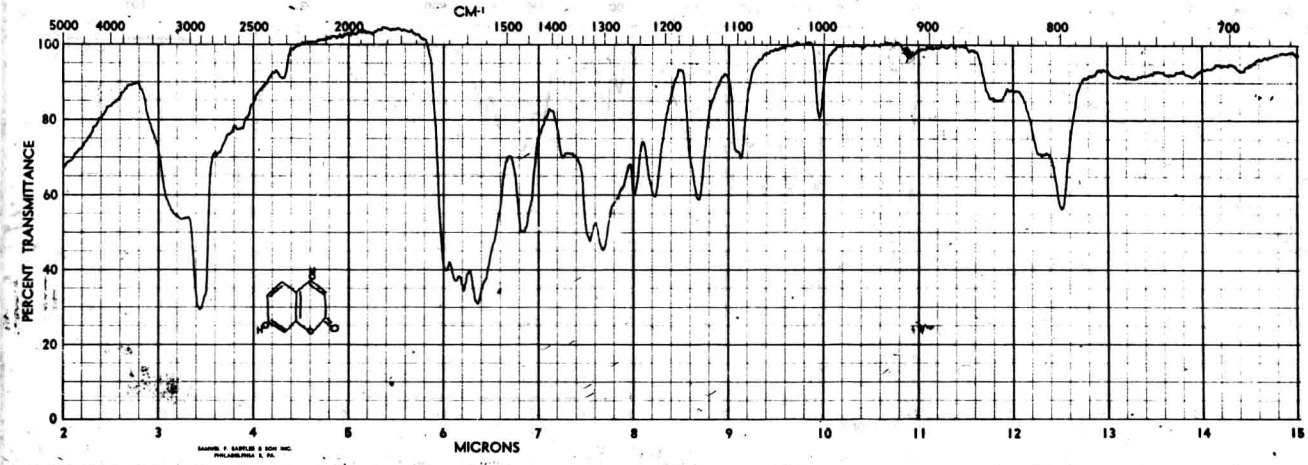
$C_9H_6O_4$ Mol. Wt. 178.15

M.P. 265°C

Source of Sample: Ukita, University of Tokyo
Tokyo, Japan



Nujol Mull



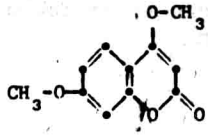
42012P

4,7-DIMETHOXYCOUMARIN

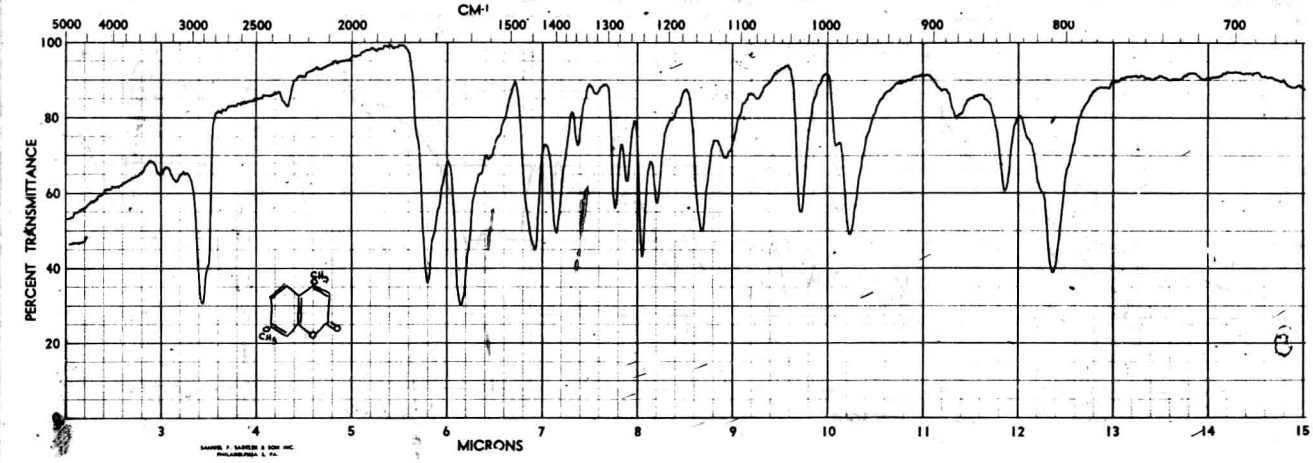
$C_{11}H_{10}O_4$ Mol. Wt. 206.20

M.P. 155-156°C

Source of Sample: Ukita, University of Tokyo
Tokyo, Japan



Nujol Mull



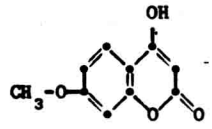
42013P

4-HYDROXY-7-METHOXYCOUMARIN

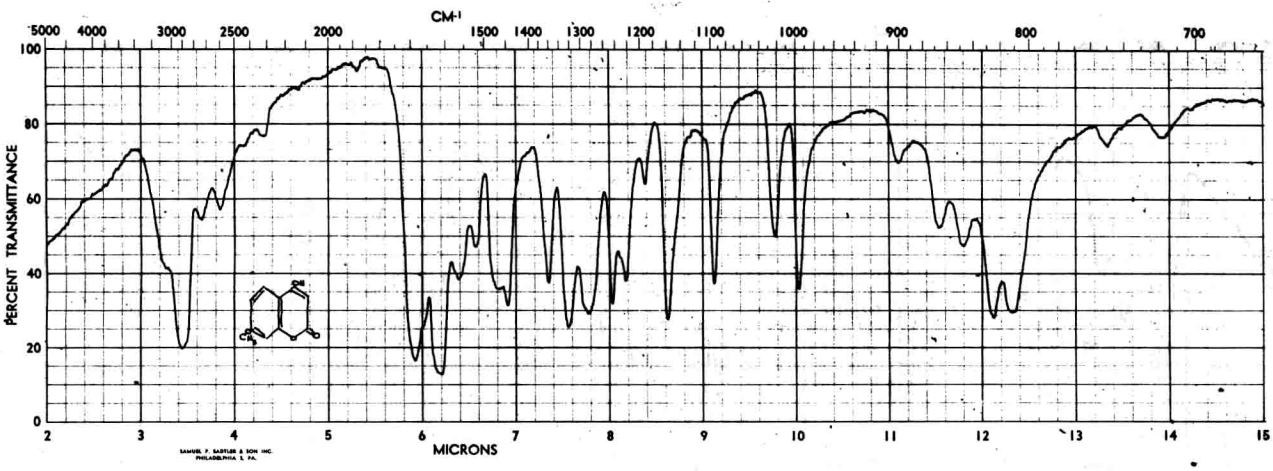
$C_{10}H_8O_4$ Mol. Wt. 192.17

M.P. 255-256°C

Source of Sample: Ukita, University of Tokyo
Tokyo, Japan



Nujol Mull



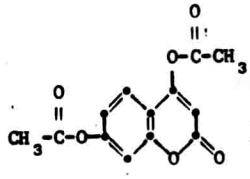
42014P

4,7-DIHYDROXYCOUMARIN, DIACETATE

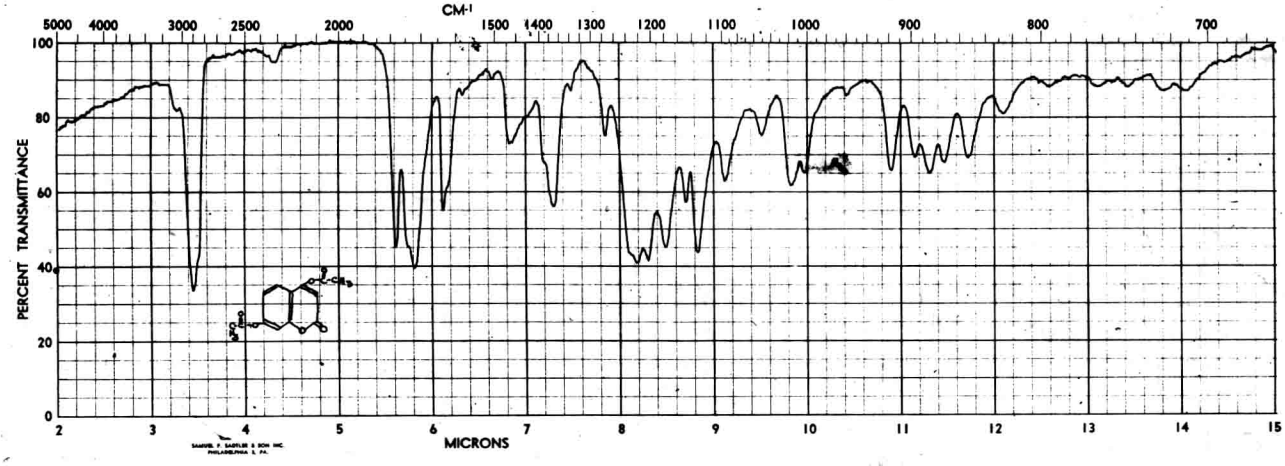
$C_{13}H_{10}O_6$ Mol. Wt. 262.22

M.P. 124-125°C

Source of Sample: Ukita, University of Tokyo
Tokyo, Japan

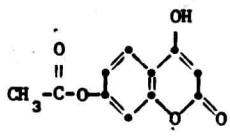


Nujol Mull



42015P

4,7-DIHYDROXYCOUMARIN, 7-ACETATE

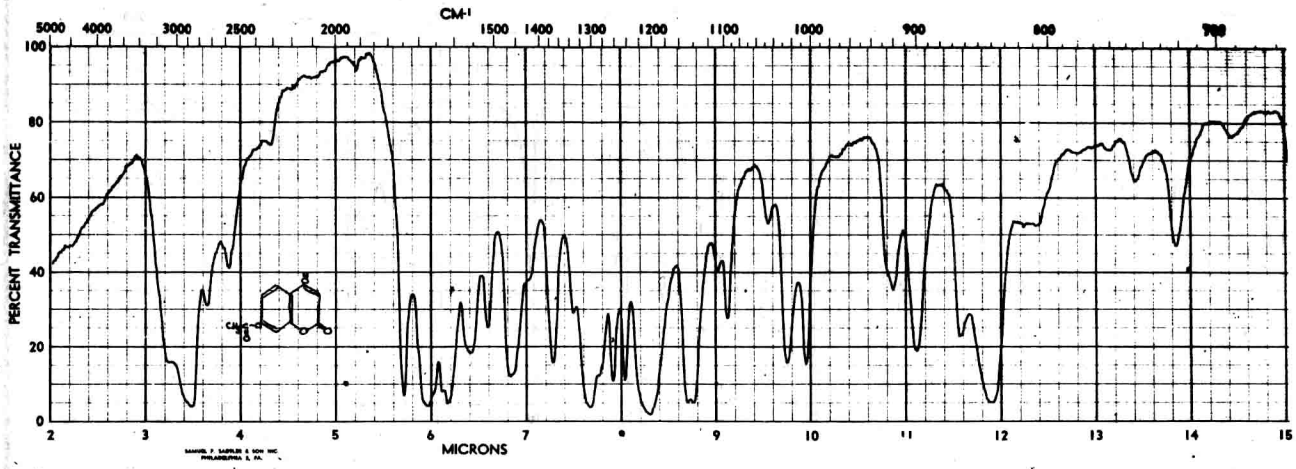


$C_{11}H_8O_5$ Mol. Wt. 220.18

M.P. 221-223°C

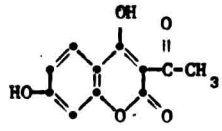
Source of Sample: Ukita, University of Tokyo
Tokyo, Japan

Nujol Mull



42016P

3-ACETYL-4,7-DIHYDROXYCOUMARIN

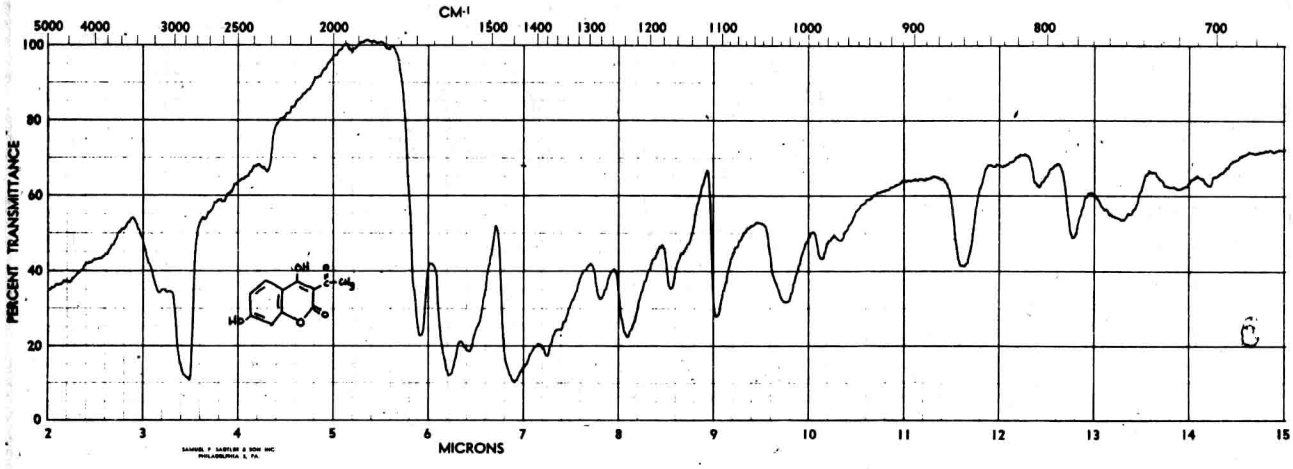


$C_{11}H_8O_5$ Mol. Wt. 220.18

M.P. 227-228°C

Source of Sample: Ukita, University of Tokyo
Tokyo, Japan

Nujol Mull



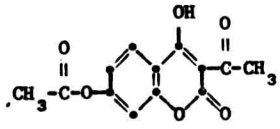
42017P

3-ACETYL-4,7-DIHYDROXYCOUMARIN, 7-ACETATE

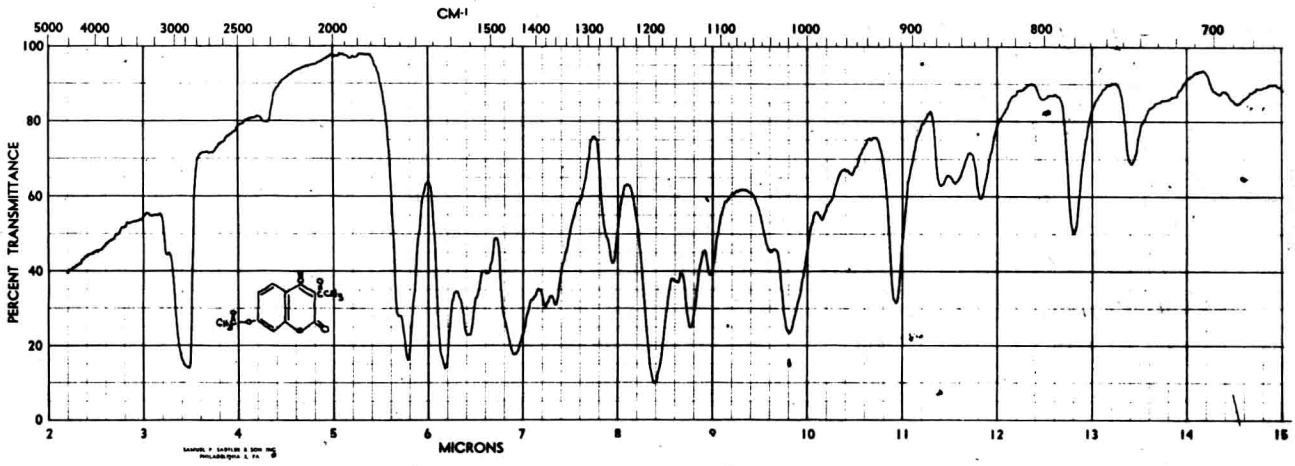
$C_{13}H_{10}O_6$ Mol. Wt. 262.22

M.P. 175-176°C

Source of Sample: Ukita, University of Tokyo
Tokyo, Japan



Nujol Mull



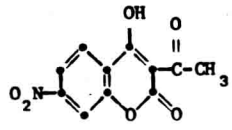
42018P

3-ACETYL-4-HYDROXY-7-NITROCOUMARIN

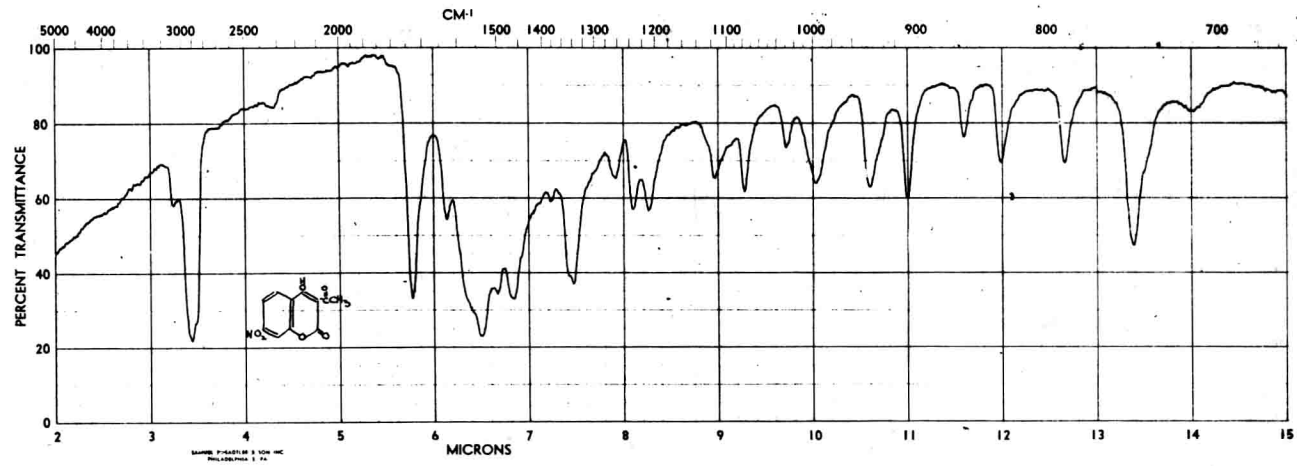
$C_{11}H_7NO_6$ Mol. Wt. 249.18

M.P. 203-204°C

Source of Sample: Ukita, University of Tokyo
Tokyo, Japan



Nujol Mull



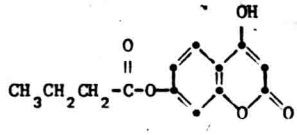
42019P

4,7-DIHYDROXYCOUMARIN, 7-BUTYRATE

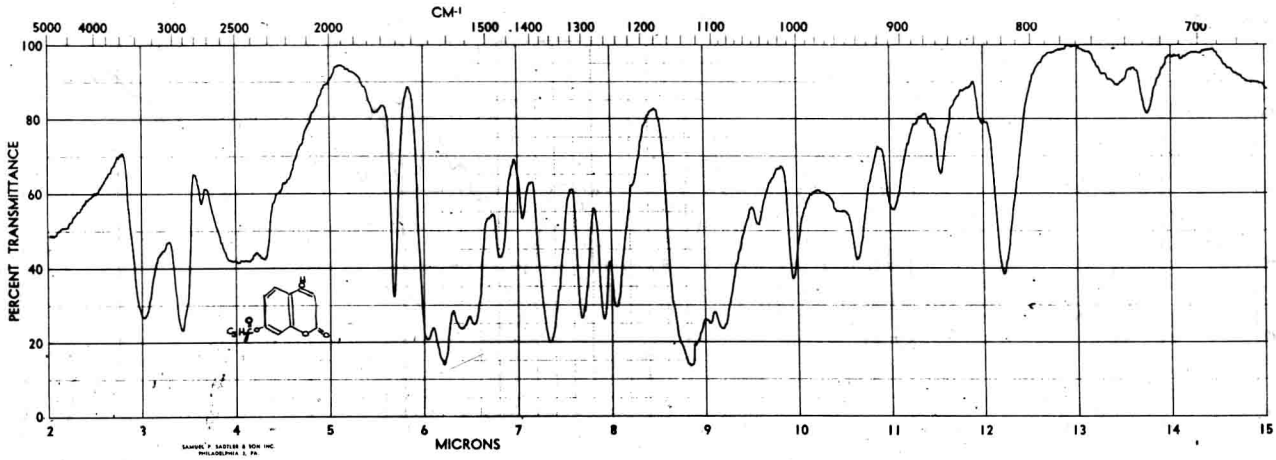
$C_{13}H_{12}O_5$ Mol. Wt. 248.24

M.P. 131-132°C

Source of Sample: Ukita, University of Tokyo
Tokyo, Japan



Nujol Mull



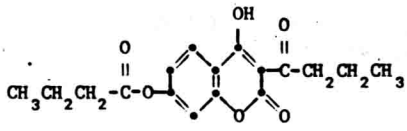
42020P

3-BUTYRYL-4,7-DIHYDROXYCOUMARIN, 7-BUTYRATE

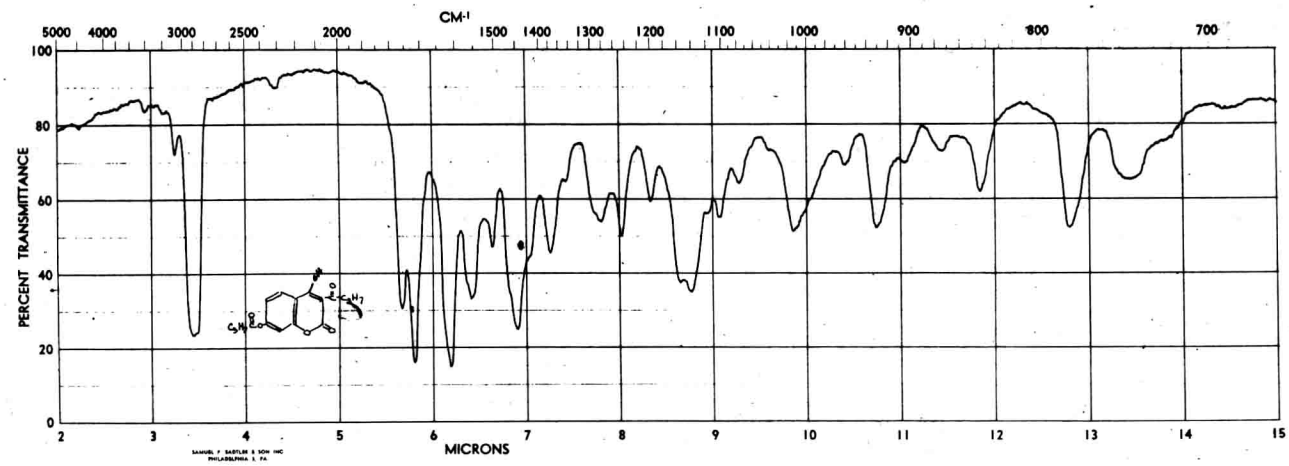
$C_{17}H_{18}O_6$ Mol. Wt. 318.33

M.P. 131-132°C

Source of Sample: Ukita, University of Tokyo
Tokyo, Japan



Nujol Mull



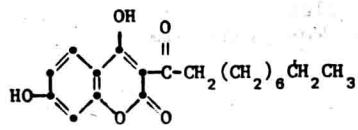
42021P

3-DECANOYL-4,7-DIHYDROXYCOUMARIN

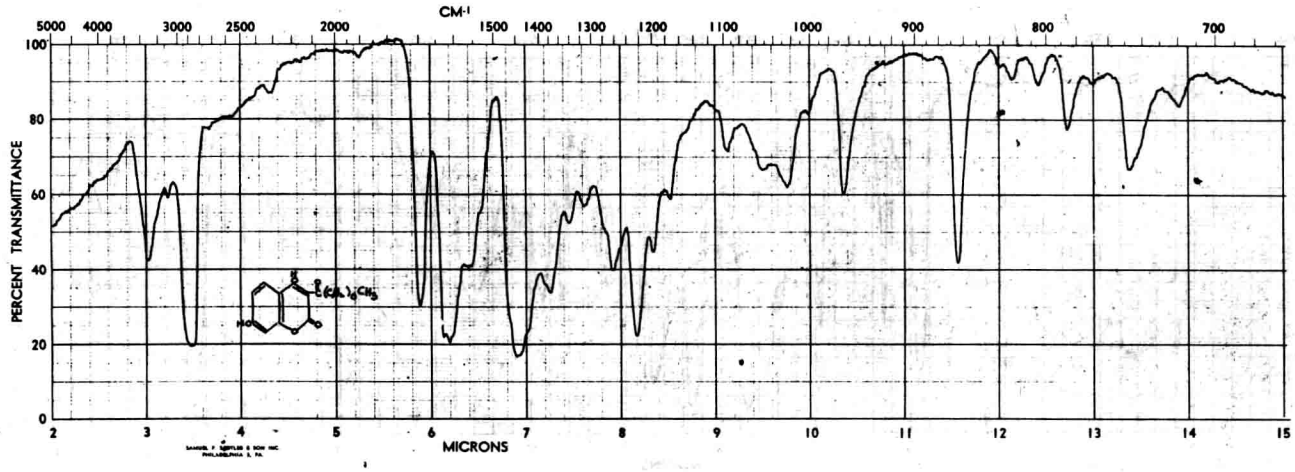
$C_{19}H_{24}O_5$ Mol. Wt. 332.40

M.P. 169-170°C

Source of Sample: Ukita, University of Tokyo
Tokyo, Japan



Nujol Mull



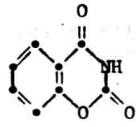
42022P

2H-1,3-BENZOXAZINE-2,4(3H)-DIONE

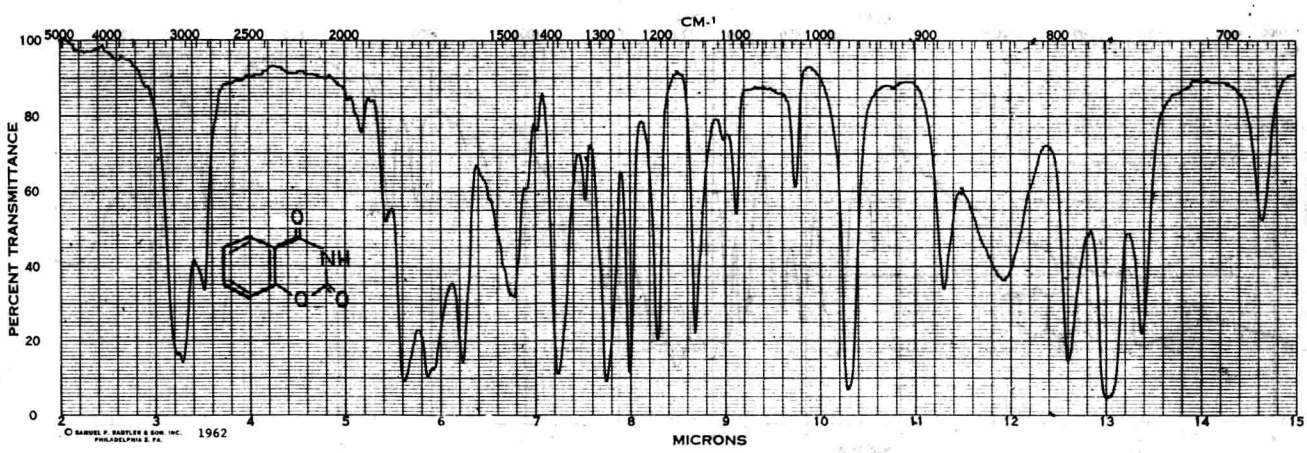
$C_8H_5NO_3$ Mol. Wt. 163.13

M.P. 227°C

Source of Sample: Scholl, Marshall College
Huntington, West Virginia



Nujol Mull



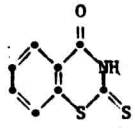
42023P

2-THIO-2H-1,3-BENZOTHIAZINE-2,4(3H)-DIONE

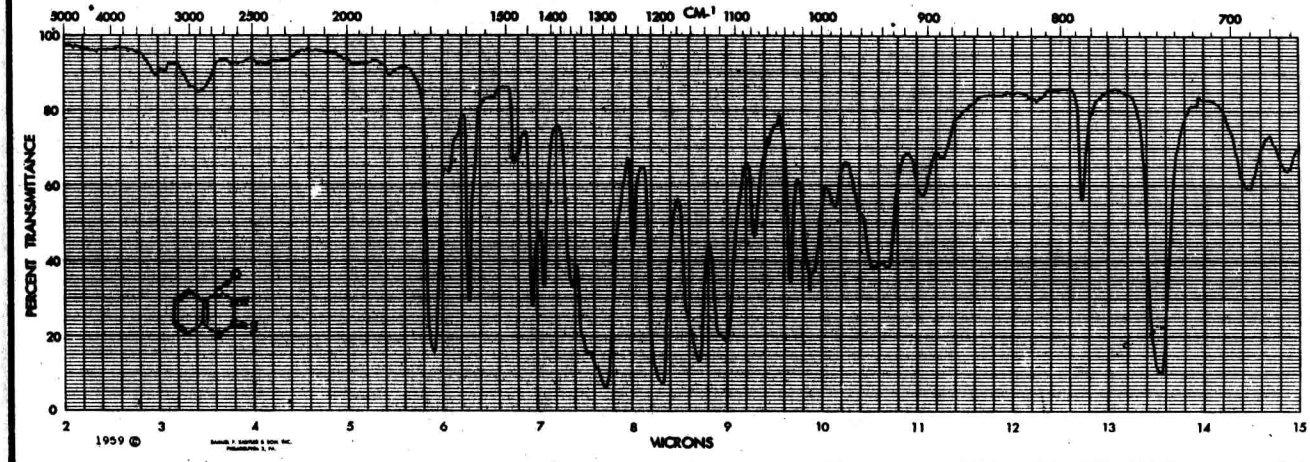
$C_8H_5NOS_2$ Mol. Wt. 195.26

M.P. 95.5°C

Source of Sample: Marshall College
Huntington, West Virginia



KBr Wafer



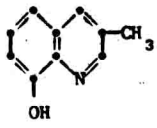
42024P

3-METHYL-8-QUINOLINOL

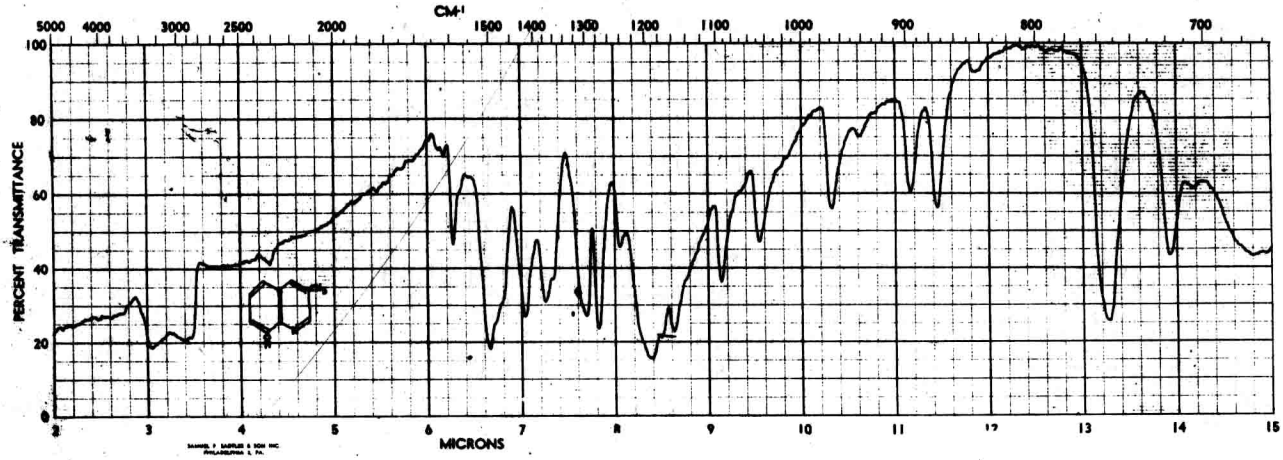
$C_{10}H_9NO$ Mol. Wt. 159.19

M.P. 113°C

Source of Sample: Phillips, University of Louisville
Louisville, Kentucky



Nujol Mull



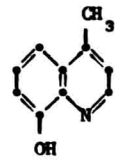
42025P

4-METHYL-8-QUINOLINOL

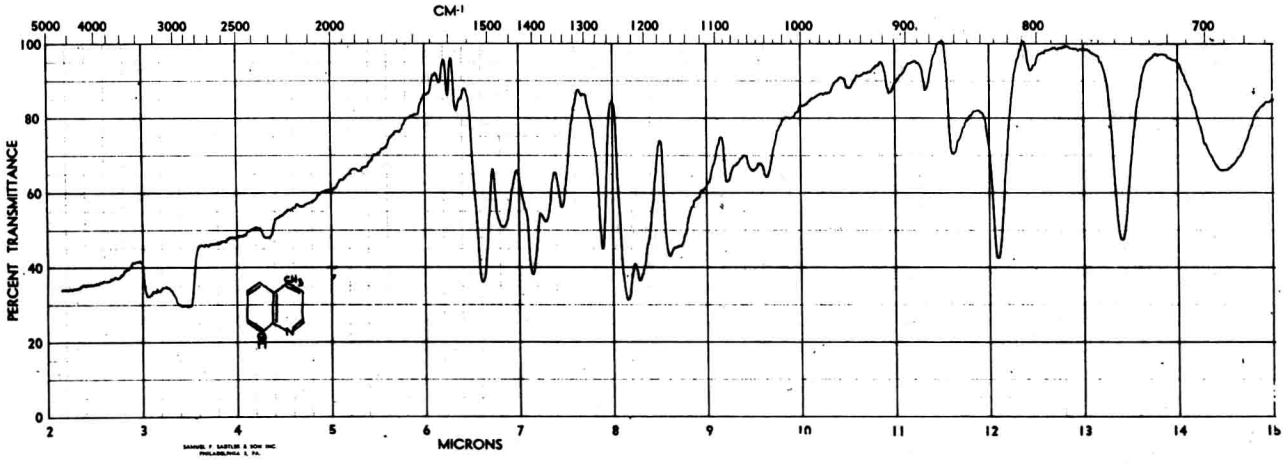
$C_{10}H_9NO$ Mol. Wt. 159.19

M.P. 141°C

Source of Sample: Phillips, University of Louisville
Louisville, Kentucky



Nujol Mull



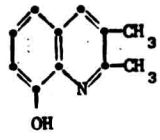
42026P

2,3-DIMETHYL-8-QUINOLINOL

$C_{11}H_{11}NO$ Mol. Wt. 173.22

M.P. 95°C

Source of Sample: Phillips, University of Louisville
Louisville, Kentucky



Nujol Mull