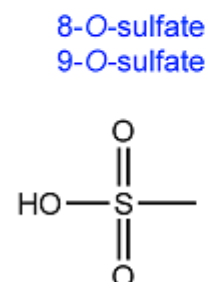
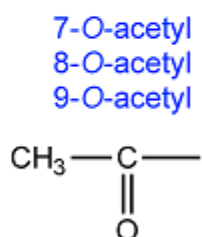
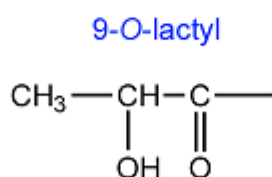


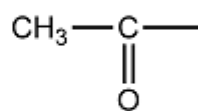
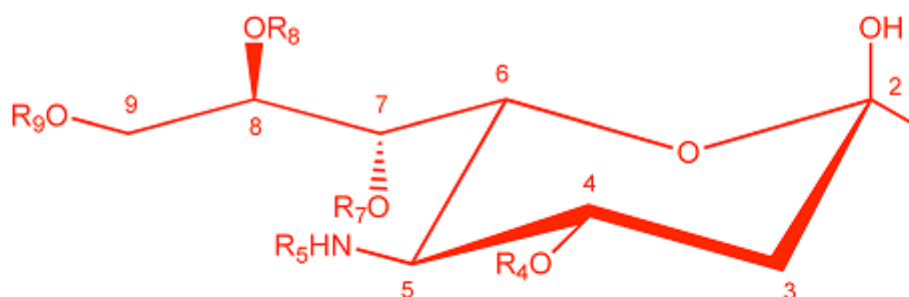
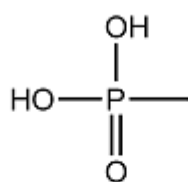
The Family of Sialic Acids

Description

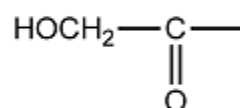
The family of sialic acids (nowadays around 40 members)



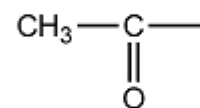
9-O-phosphate



N-acetyl



N-glycolyl



4-O-acetyl

Most important member: Neu5Ac

Structural analysis of O-acetylated sialic acid

Conflict between organic chemistry and mass spectrometry

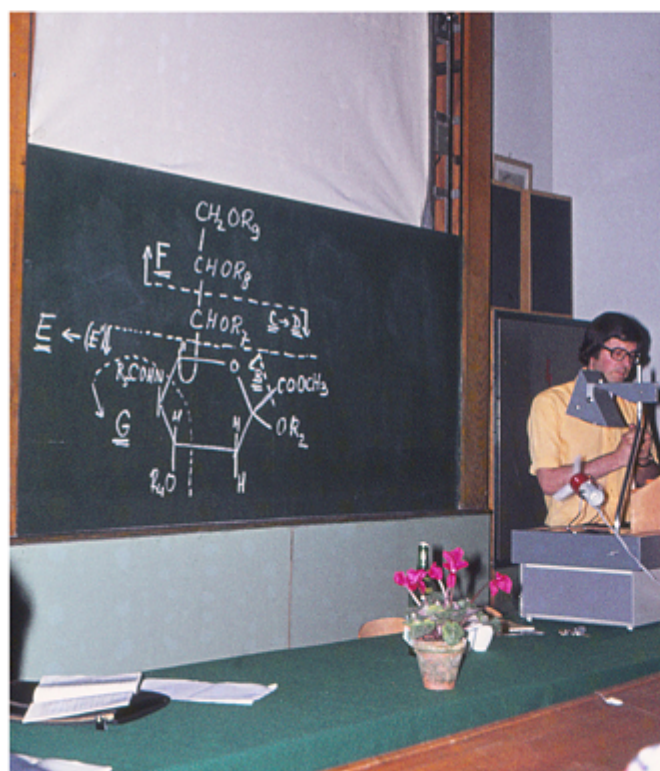
1974

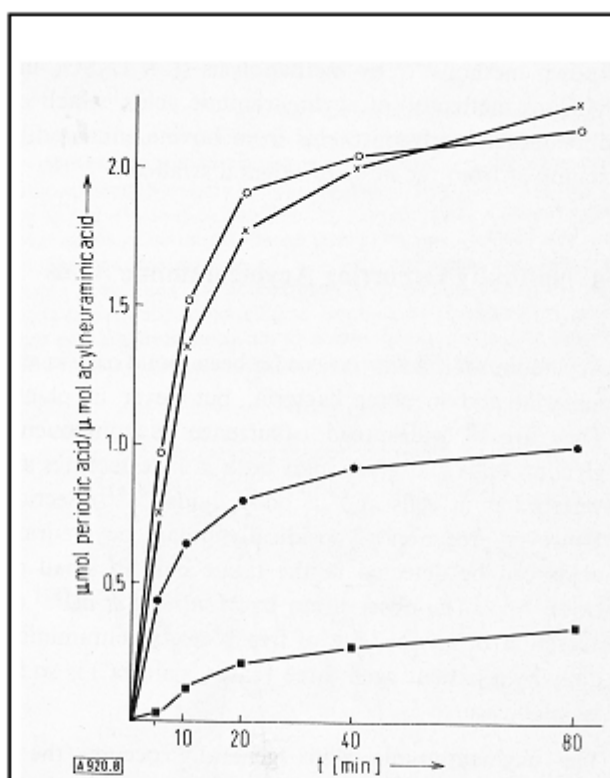
VIIth International Symposium
on Carbohydrate Chemistry,
Bratislava, 1974



Prof. dr. Roland Schauer

Gift of Neu5,8Ac₂ (based on
no periodate consumption)
for EI-MS analysis





Neu5Ac

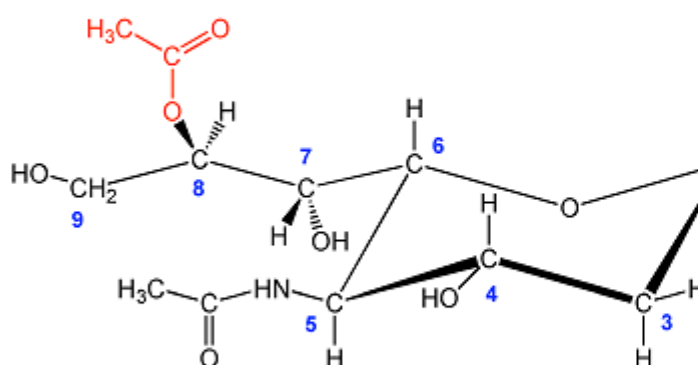
Neu4,5Ac₂Neu5,7Ac₂Neu5,8Ac₂

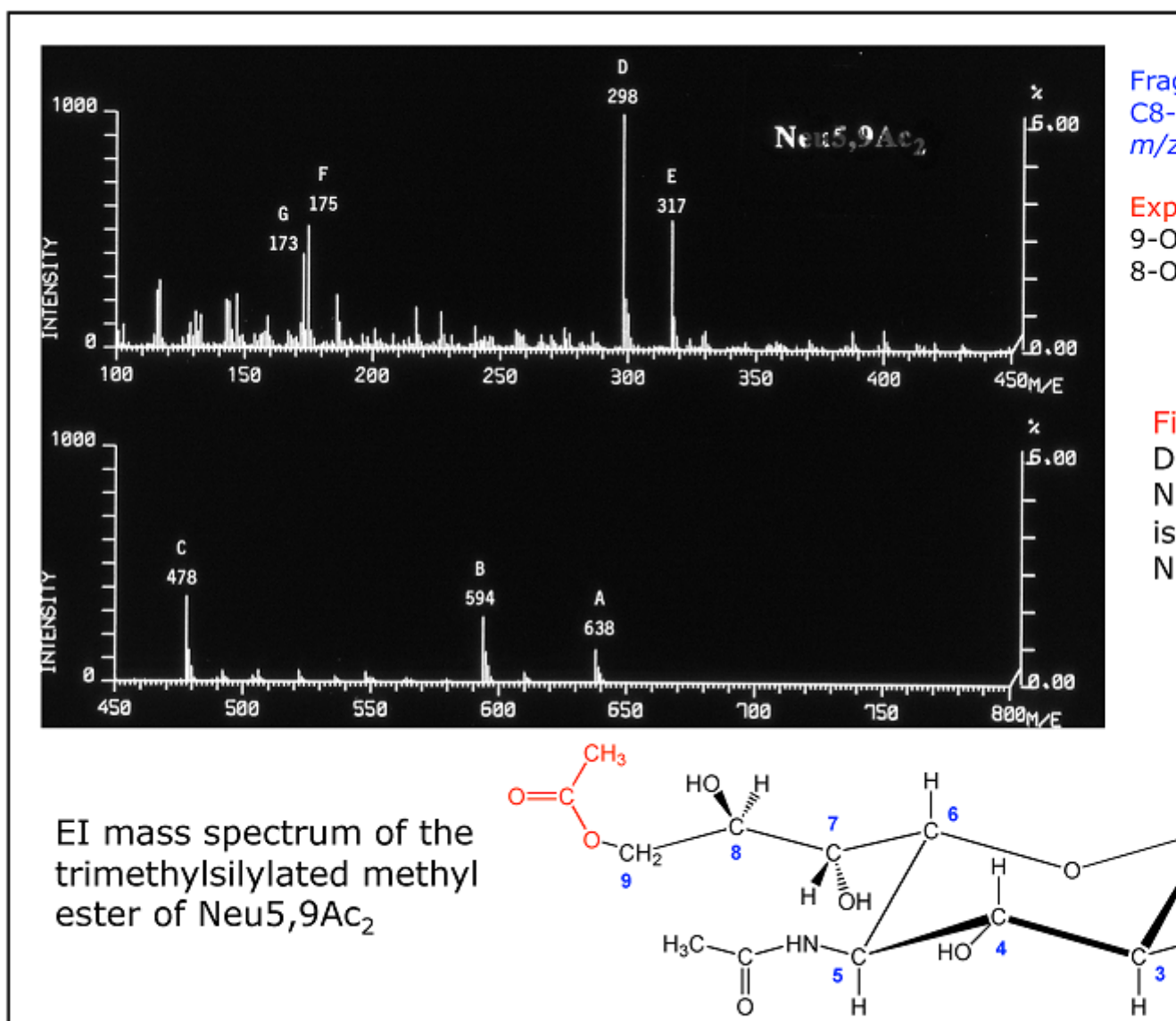
Determination of the **location of O-acetyl groups** on the neuraminic acid skeletons by several isomeric *N*-acetyl-*O*-acetyl-neuraminic acids by **polarographic measurement of periodate consumption** at

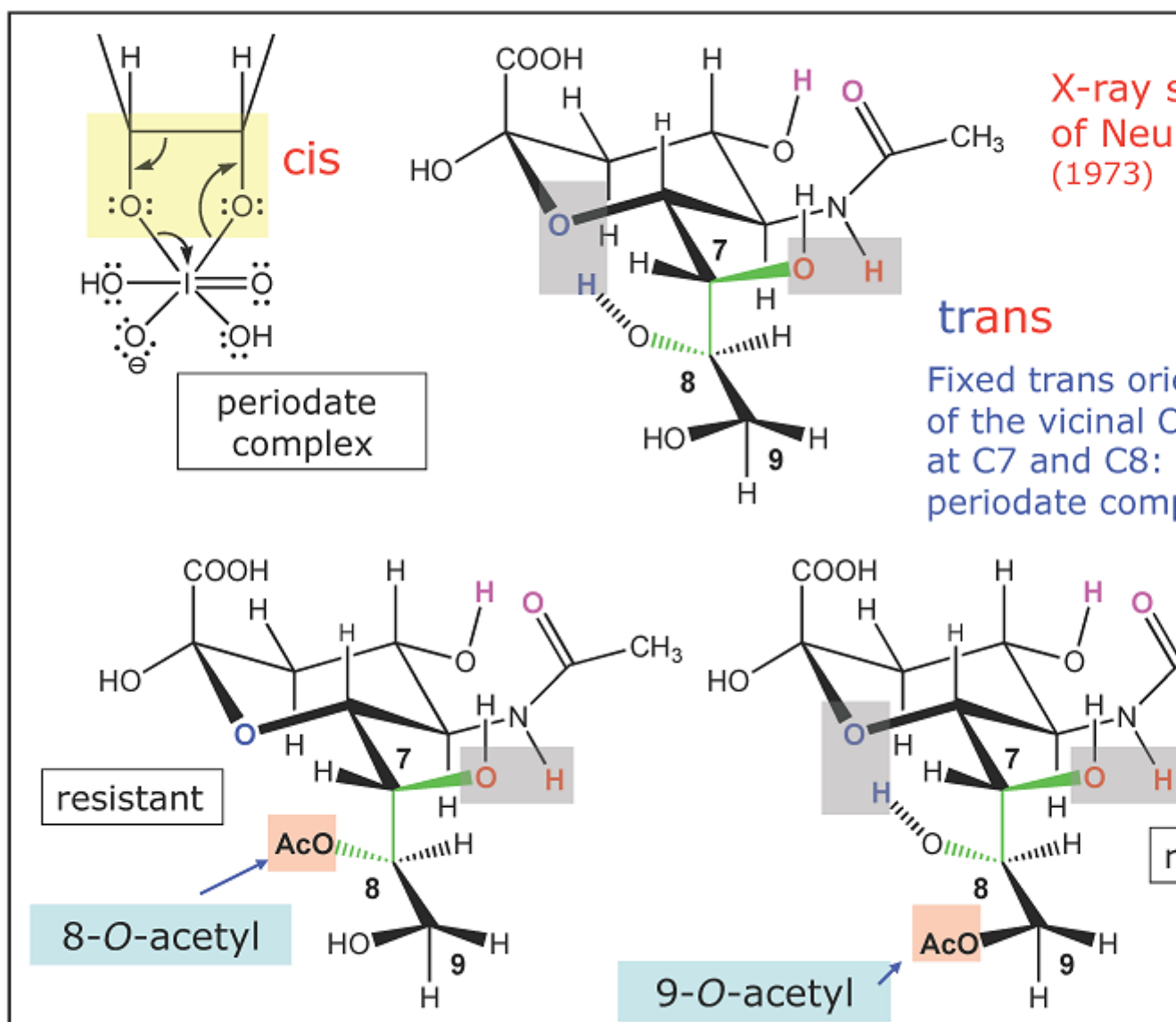
R. Schauer, *Angew. Chem. Int. Ed.* (1973) 127-138.

Main *O*-acetylated Sia in different biological sources

- Neu5,8Ac₂ should not show periodate consumption (very minor due to de-*O*-acetylation during the incubation).
- Neu5,9Ac₂ was expected to show a consumption of 1 mol periodate, just like Neu5,7Ac₂ (vicinal OH groups).
- Neu5,7Ac₂ does not react in the Aminoff periodic acid / thiobarbituric acid assay.



Frac
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8-OFi
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Carbohydrate Research, 41 (1975) 7–17

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IDENTIFICATION OF
O-ACETYLATED N-ACYLNEURAMINIC ACIDS BY
MASS SPECTROMETRY

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Category

1. News