# Molecule of the Week: FR-900482

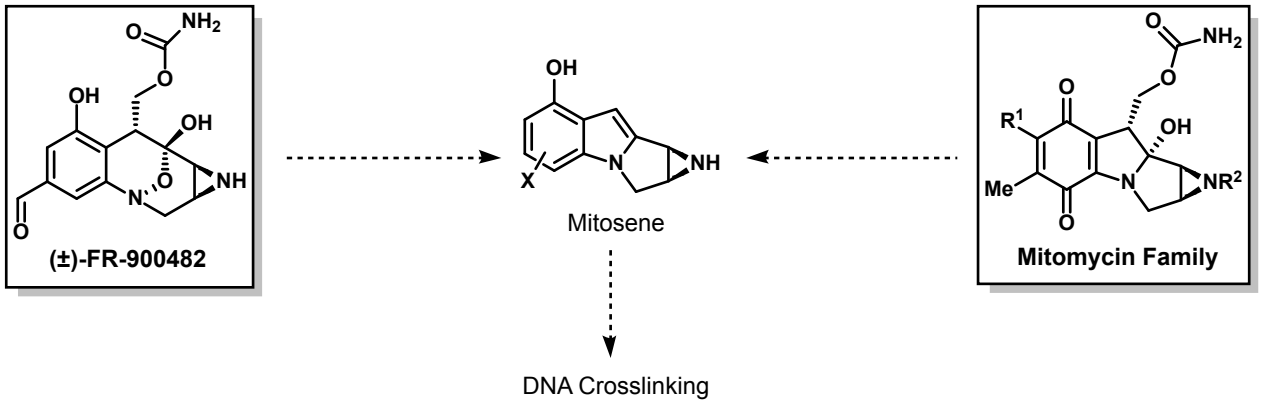
Tohru Fukuyama

FR-900482 and Mitomycins were first known examples of DNA crosslinking agents.

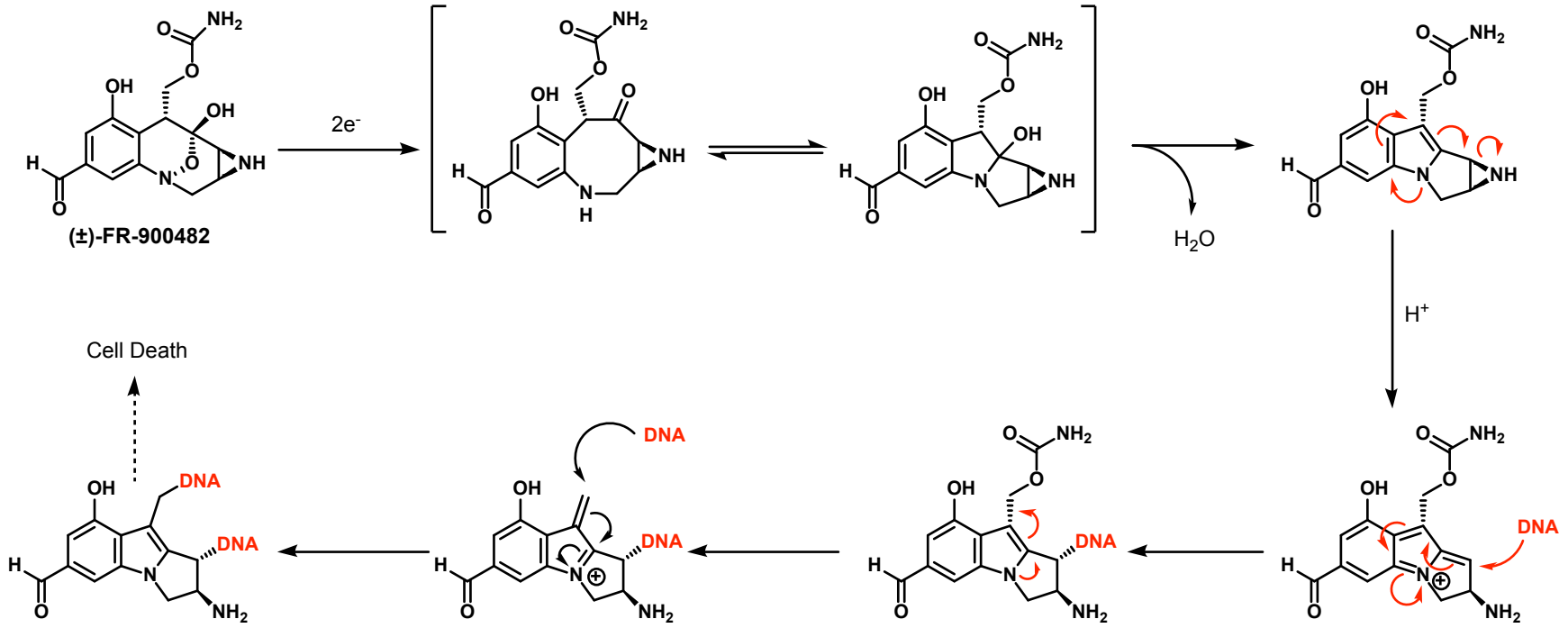
Both operate through mitosene intermediate, but Mitomycins shown to have more side effects due to monoalkylation and ROS side reactions.

FR-900482 highly cytotoxic; for example $IC_{50}$ = 0.98 mM against $SKBr_3$ breast cancer cell line.

FR-900482 is a very popular target for total synthesis. Fukuyama was the first in 1991, but since then at least five total and numerous formal syntheses have been reported.




Mechanism of FR-900482 DNA Crosslinking:



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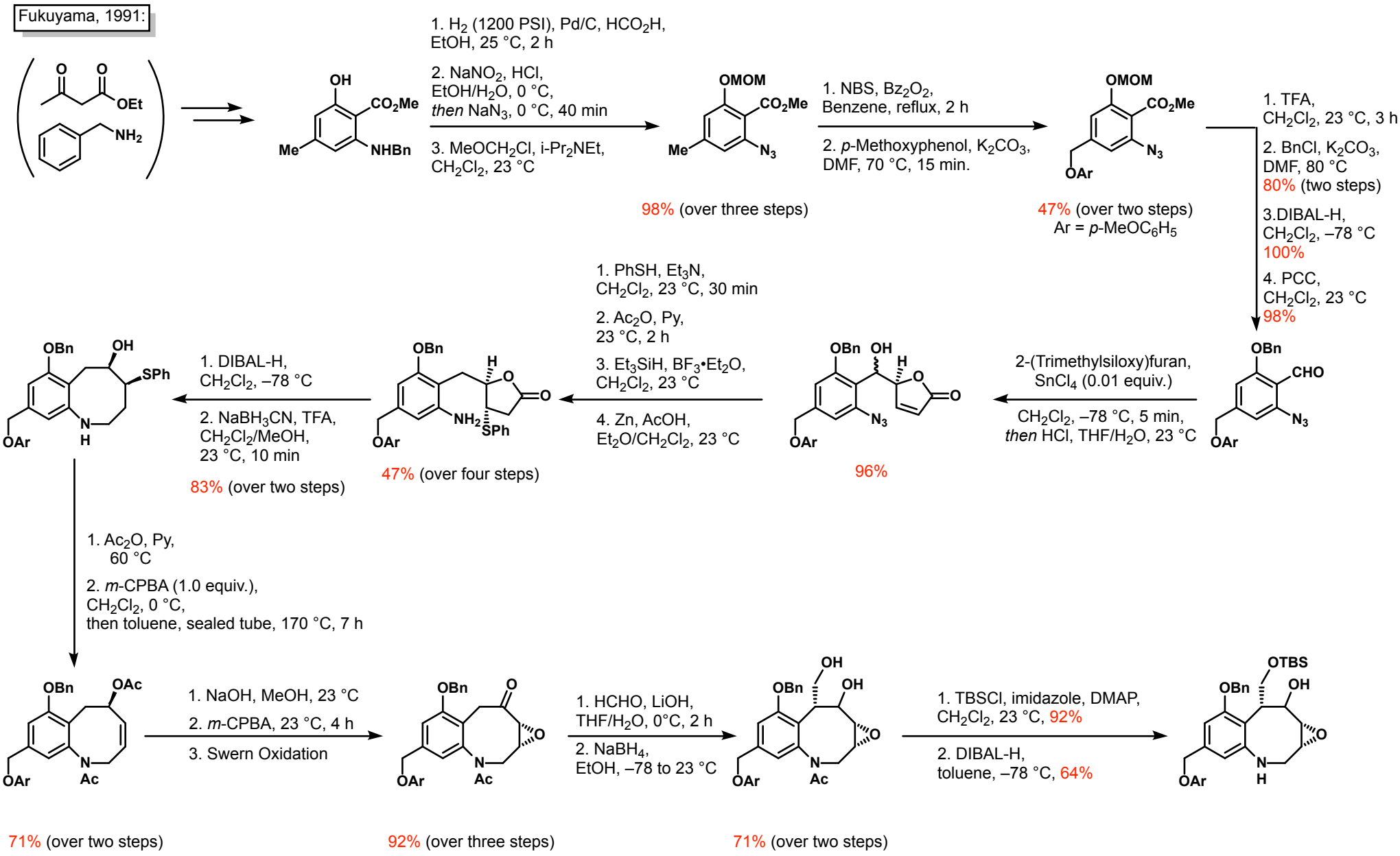


Fukuyama et al. *J. Am. Chem. Soc.*, **1992**, *114* (1), pp 383–385.

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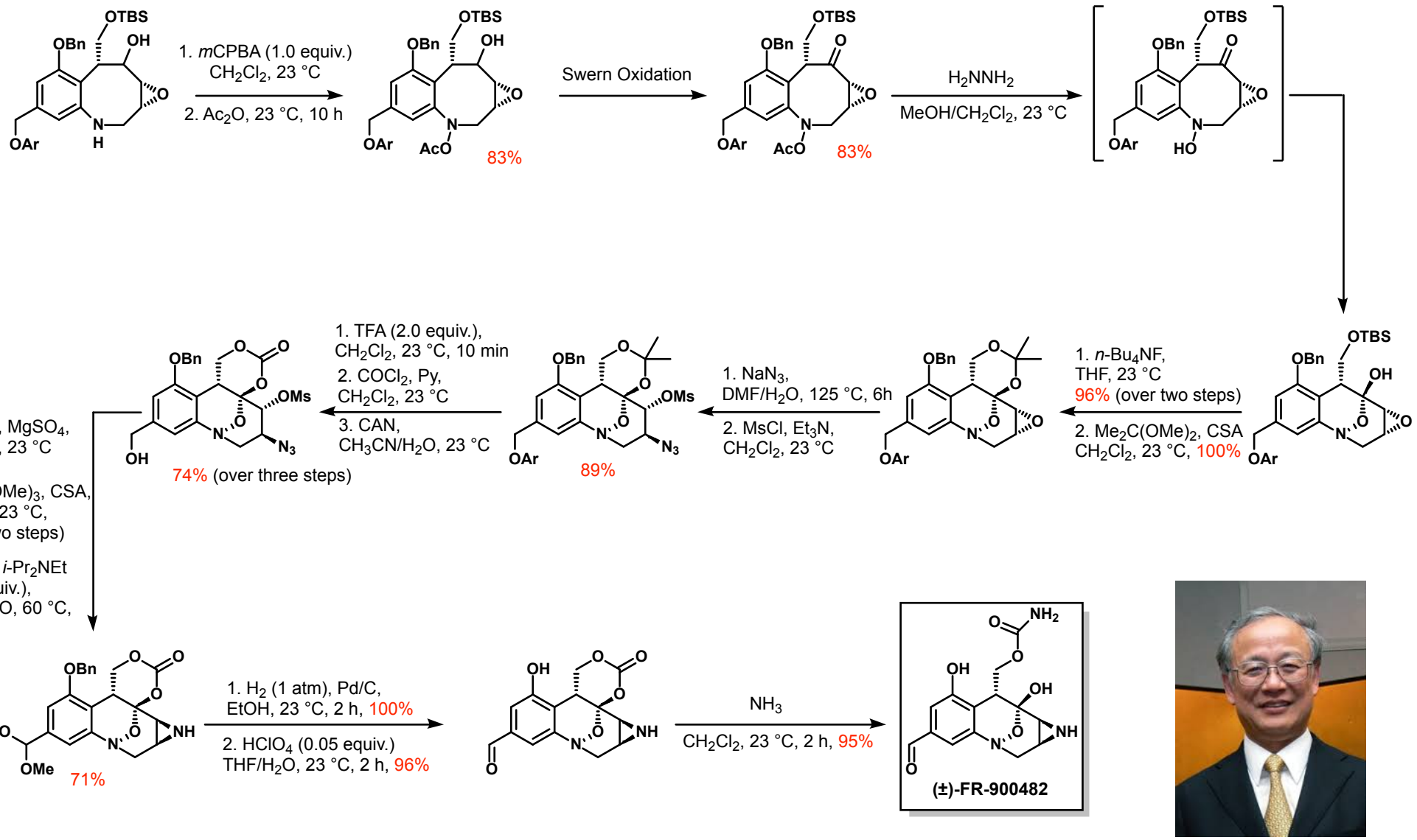




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