

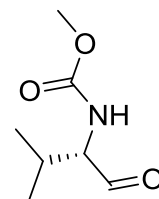
# Total Synthesis of Ledipasvir (Harvoni®)

*J. Med. Chem.* **2014**, *57*, 2033-2046.

*Bioorg. Med. Chem.* **2016**, *24*, 1937-1980.

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- Ledipasvir is a potent NS5A inhibitor that is approved for use in combination with sofosbuvir, a nucleotide inhibitor of viral polymerase, for the treatment of chronic hepatitis C virus (HCV) genotype 1 infection



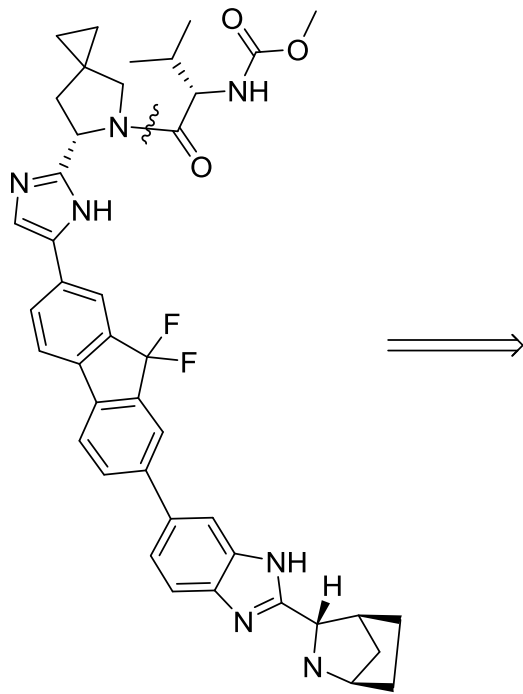
- The combination was discovered and developed at Gilead Sciences and is marketed as the fixed combination with brand name of Harvoni®.



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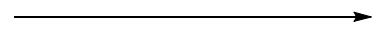
Presented by Yuanzhe Zhang, Liu group.

# Retro-synthetic Analysis

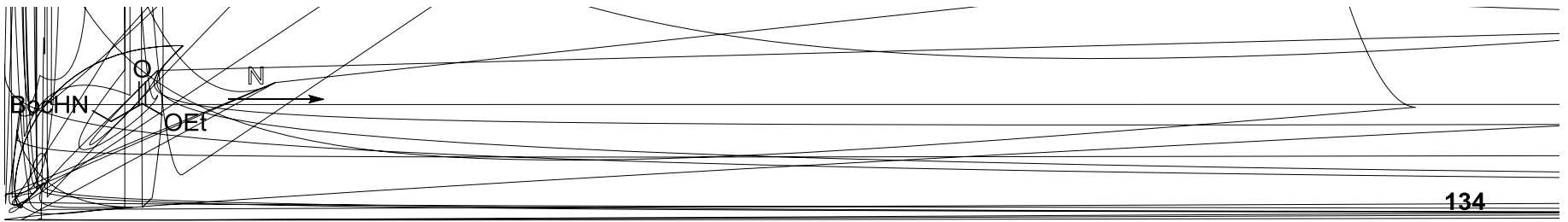
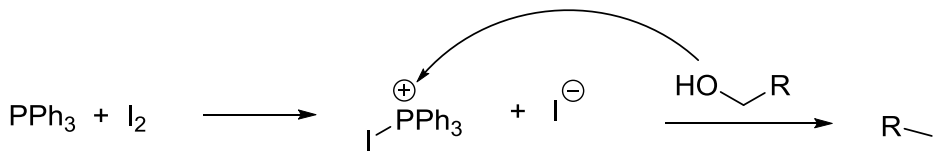
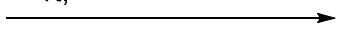


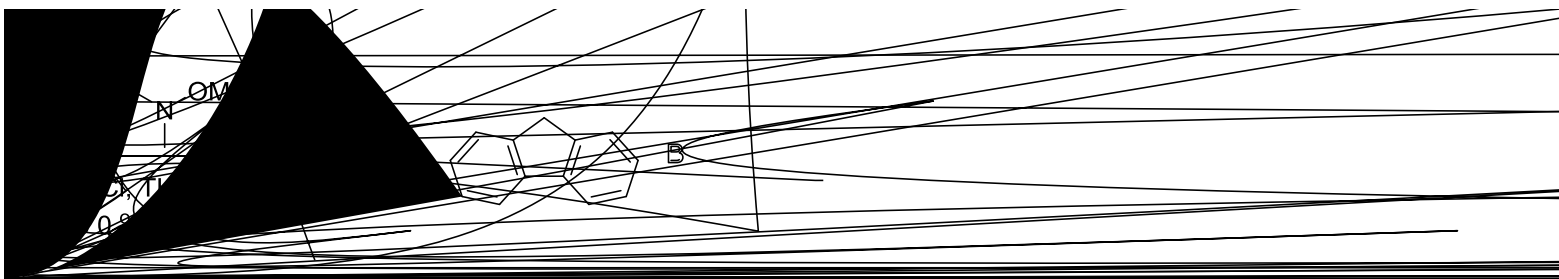
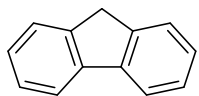


1) LiOH, 2-MeTHF, H

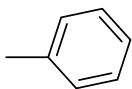
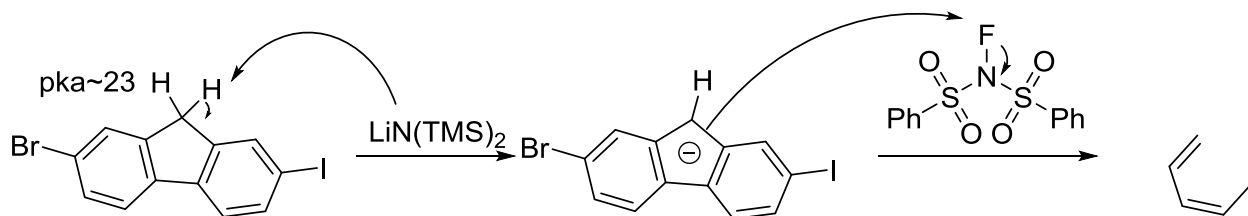


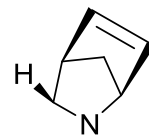
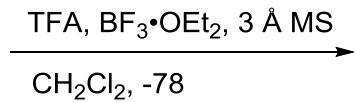
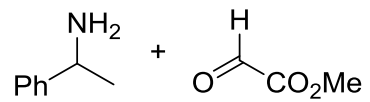
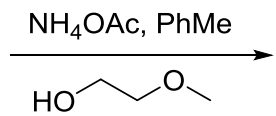
1) 1 M HCl, 2-MeTHF,  
rt,





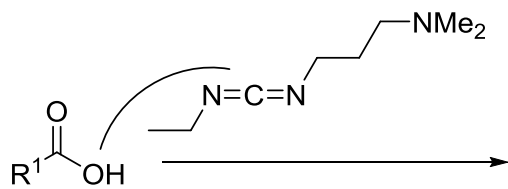
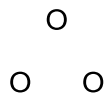
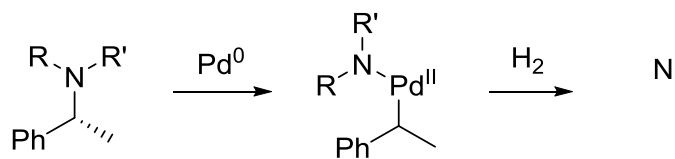
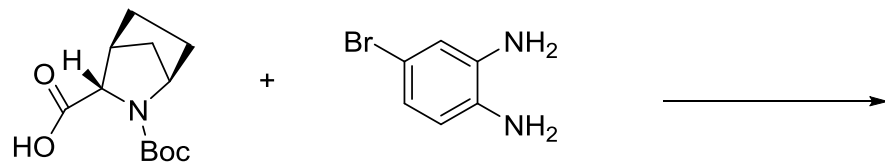
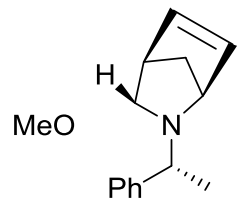
$7I_2 + 10$



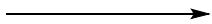


NH



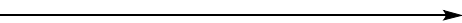


HOAc, MTBE



55 °C,

1) **143**, 1 M K<sub>3</sub>PO<sub>4</sub>, 70 °C



2) oxalic



C<sub>2</sub>H<sub>5</sub>

