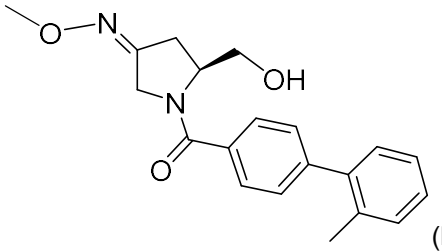
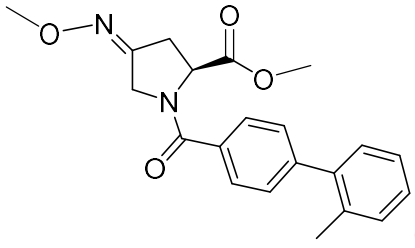
CLAIMS

1. A method of synthesizing a compound, (3Z,5S)-5-(hydroxymethyl)-1-[(2′-methyl-1,1′-biphenyl-4-yl)carbonyl]pyrrolidin-3-one O-methyloxime, represented by formula (**I**)



(**I**)

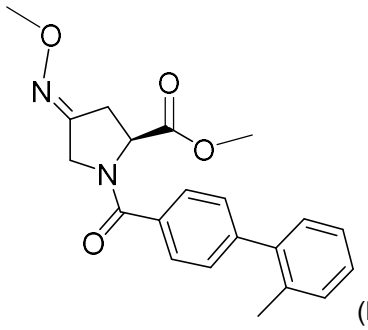
said method comprising reducing a precursor, methyl (2S,4Z)-1-[(2′-methyl-1,1′-biphenyl-4-yl)carbonyl]-4-methoxyimino pyrrolidine-2-carboxylate, represented by formula (**II**)



(**II**),

thereby producing said compound represented by formula (**I**).

2. The method of claim 1, wherein said precursor represented by formula (**II**) is present within a mixture comprising a diastereomer, methyl (2S,4E)-1-[(2′-methyl-1,1′-biphenyl-4-yl)carbonyl]-4-methoxyimino pyrrolidine-2-carboxylate, represented by formula (**IIa**)

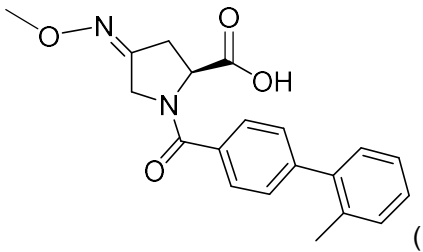


(**IIa**).

3. The method of claim 1, wherein said reducing comprises reacting said precursor represented by formula (**II**) with lithium borohydride.

4. The method of claim 3, said method comprising reacting said precursor represented by formula (**II**) with said lithium borohydride in a solvent comprising methanol and tetrahydrofuran.

5. The method of claim 1, said method comprising synthesizing said precursor represented by formula (**II**) by O-methylating a precursor represented by formula (**III**)



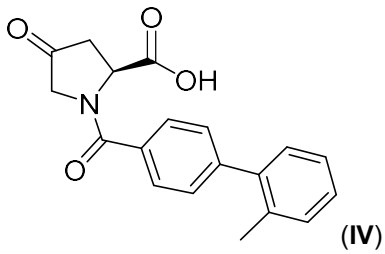
(**III**).

6. The method of claim 5, wherein said O-methylating comprises reacting said precursor represented by formula (**III**) with dimethyl sulfate.

7. The method of claim 6, said method comprising reacting said precursor represented by formula (**III**) with said dimethyl sulfate in the presence of a base.

8. The method of claim 7, wherein said base is potassium carbonate.

9. The method of claim 5, said method comprising synthesizing said precursor represented by formula (**III**) by reacting a precursor represented by formula (**IV**)

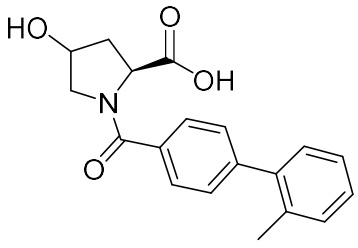


(**IV**)

with methoxyamine or a salt thereof.

10. The method of claim 9, said method comprising reacting said precursor represented by formula (**IV**) with methoxyamine hydrochloride.

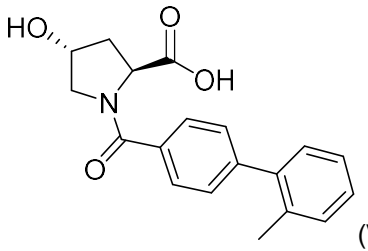
11. The method of claim 9, said method comprising synthesizing said precursor represented by formula (**IV**) by oxidizing a precursor represented by formula (**V**)



(**V**).

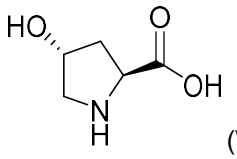
12. The method of claim 11, wherein said oxidizing comprises reacting said precursor represented by formula (**V**) with pyridine-sulfur trioxide.

13. The method of claim 11, wherein said precursor represented by formula (**V**) is a precursor represented by formula (**Va**)



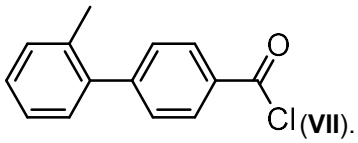
(**Va**).

14. The method of claim 13, said method comprising synthesizing said precursor represented by formula (**Va**) by reacting a precursor represented by formula (**VI**)



(**VI**)

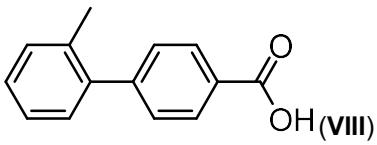
with a precursor represented by formula (**VII**)



(**VII**).

15. The method of claim 14, said method comprising reacting said precursor represented by formula (**VI**) with said precursor represented by formula (**VII**) and potassium carbonate.

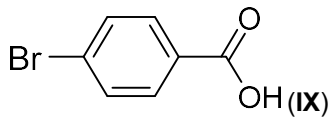
16. The method of claim 14, said method comprising synthesizing said precursor represented by formula (**VII**) by reacting a precursor represented by formula (**VIII**)



(**VIII**)

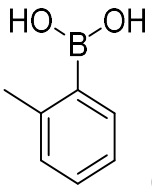
with thionyl chloride.

17. The method of claim 16, said method comprising synthesizing said precursor represented by formula (**VIII**) by coupling a precursor represented by formula (**IX**)



(**IX**)

with a precursor represented by formula (**X**)



(**X**)

under Suzuki reaction conditions.

18. The method of claim 17, wherein said coupling comprises reacting said precursor represented by formula (**IX**) with said precursor represented by formula (**X**) in the presence of tetrakis(triphenylphosphine)palladium.