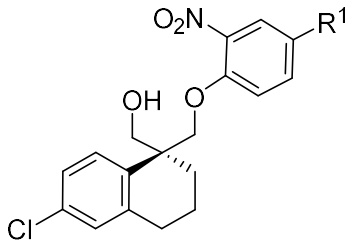
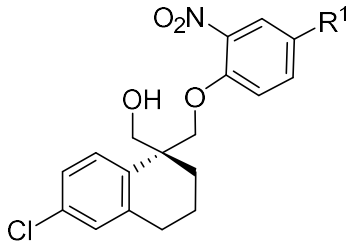
~~embodiments~~examples, compound Y can have the stereochemistry as shown in compound Y1

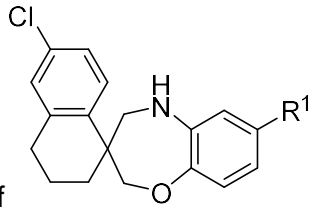


(Y1). In various ~~embodiment~~examples, compound Y can have the stereochemistry as shown in compound Y2

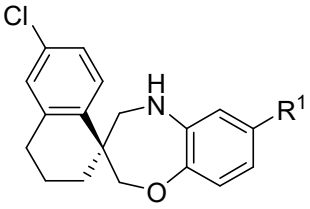


(Y2).

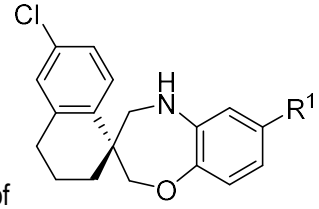
[0010] In various ~~embodiment~~examples, compound Y is used to synthesize compound A3 or a salt or solvate thereof



(A3). In various ~~embodiment~~examples, compound Y1 is used to synthesize compound A3A or a salt or solvate thereof

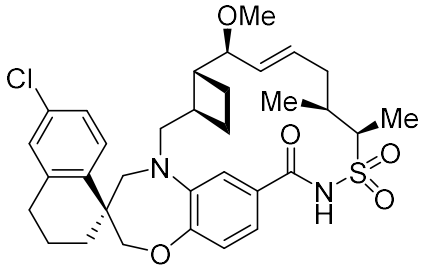


(A3A). In various ~~embodiment~~examples, compound Y is used to synthesize compound A3B or a salt or solvate thereof



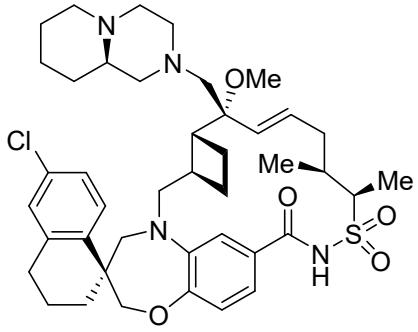
(A3B).

[0011] In various ~~embodiment~~examples, compound Y1 is used to synthesize Compound A1 or a salt or solvate thereof



(A1).

[0012] In various ~~embodiment~~examples, compound Y1 is used to synthesize Compound A2 or a salt or solvate thereof

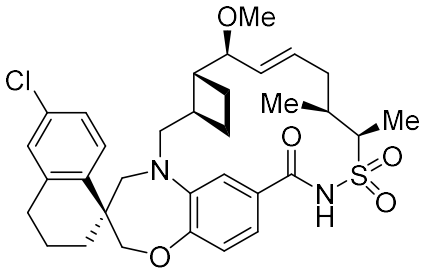


(A2).

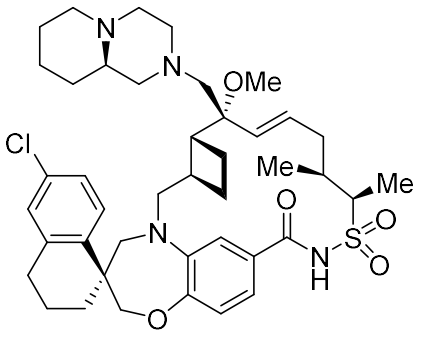
[0013] Further ~~aspect~~examples and advantages will be apparent to those of ordinary skill in the art from a review of the following detailed description. The description hereafter includes specific ~~embodiment~~examples with the understanding that the disclosure is illustrative, and is not intended to limit the ~~invention~~disclosure to the specific ~~embodiment~~examples described herein.

DETAILED DESCRIPTION

[0014] Provided herein are processes for synthesizing Mcl-1 inhibitors and corresponding Mcl-1 inhibitor intermediates. In particular, the intermediates can be used in processes for synthesizing (1S,3'R,6'R,7'S,8'E,11'S,12'R)-6-chloro-7'-methoxy-11',12'-dimethyl-3,4-dihydro-2H,15'H-spiro[naphthalene-1,22'[20]oxa[13]thia[1,14]diazatetracyclo[14.7.2.0^{3,6}.0^{19,24}]pentacosa [8,16,18,24]tetraen]-15'-one 13',13'-dioxide (compound A1), or a salt or solvate thereof and for synthesizing (1S,3'R,6'R,7'R,8'E,11'S,12'R)-6-chloro-7'-methoxy-11',12'-dinethyl-7'-((9aR)-octahydro-2H-pyrido[1,2-a]pyrazin-2-ylmethyl)-3,4-dihydro-2H,15'H-spiro[naphthalene-1,22'-[20]oxa[13]thia[1,14]diazatetracyclo [14.7.2.0^{3,6}.0^{19,24}]pentacosa[8,16,18,24]tetraen]-15'-one 13',13'-dioxide (compound A2), or a salt or solvate thereof are provided:



(A1),



(A2).

[0015] U.S. Patent No. 9,562,061, which is incorporated herein by reference in its entirety, discloses compound A1, or a salt or solvate thereof, as an Mcl-1 inhibitor and provides a process for preparing it. U.S. Patent No. 9,562,061