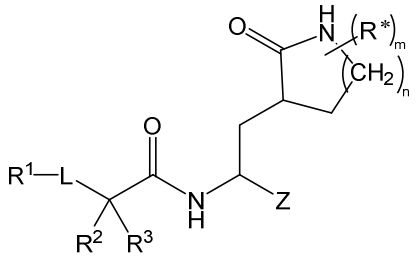
alternative compounds with suitable medicinal chemistry properties to help control the COVID-19 pandemic. The invention provides such compounds as well as methods of making and usingthem for treating viral infections such as COVID-19.

BRIEF SUMMARY OF THE INVENTION

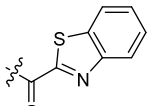
[0004a] The present disclosure refers to subject matter as defined in the attached set of claims.

[0005] In one aspect, the present disclosure provides heterocyclic compounds having astructure according to Formula I:



(I)

or an enantiomer, a mixture of enantiomers, a mixture of two or more diastereomers, a tautomer, a mixture of two or more tautomers, or an isotopic variant thereof; or a pharmaceutically acceptable salt, solvate, hydrate, or prodrug thereof; wherein:

Z is selected from -CHO, -CN, -CH_2CN, -C(=O)-CH=CH_2, -NH-C(=O)-CH=CH_2, -CH_2-C(=O)-CH=CH_2, -C(=O)CH_2OH, , -CH(OH)SO_3^- (and an associated cation, such as Na^+), -CO_2-C_{1-3}alkyl, -CH_2OH, -C(=O)OH, -$CH(OCH_3)_2$, and -C(=O)-C1-3haloalkyl;

L is selected from a bond, -(CR2)1-2-, -(CR2)0-2-NR-, -NR-(CR2)0-2, -(CR2)0-2-O-, -O-(CR2)0-2, -(CR2)0-2-C(=O)-NR-, -NR-C(=O)-(CR2)0-2-, -NR-C(=O)-CHR^2-NR-C(=O)-(CR2)0-2-, -NR-C(=O)-CHR^2-NR-C(=O)-O-(CR2)0-2-, -(CR2)0-2-C(=O)-NR-CHR^2-C(=O)-NR-, -(CR2)0-2-O-C(=O)-NR-CHR^2-C(=O)-NR-, -NR-C(=O)-O-(CR2)0-2-, and -(CR2)0-2-O-C(=O)-NR-;

R^1 is selected from -CF_3, -CHF_2, -CH_2F, phenyl, naphthyl, and 5-10 membered heteroaryl containing one or two heteroatoms selected from N, O and S as ring members, and wherein each phenyl, naphthyl, and 5-10 membered heteroaryl is optionally substituted with one to three groups independently selected from halo, CN, C1-3 alkyl, C1-3 alkoxy, C1-3 haloalkyl, and C1-3 haloalkoxy;

each R^2 is selected from C1-6 alkyl, 3-7 membered cycloalkyl, C1-3 alkyl-(3-7 membered cycloalkyl), and (3-7 memberedcycloalkyl)-C1-3 alkyl, each of which is optionally substituted with up to three groups selected from halo, CN, C1-3 alkyl, C_{1-6}alkoxy, C1-3 haloalkyl, and C1-3 haloalkoxy;