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Design, Synthesis, In silico docking studies and biological evaluation of novel quinoxaline-hydrazide hydrazone-1,2,3-triazole hybrids as α-glucosidase inhibitors, antioxidants

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CONTENTS

\(^1\)H-NMR Spectra of synthesized compounds .......................... 1-21
\(^13\)C-NMR Spectra of synthesized compounds .......................... 22-35
MASS Spectra of synthesized compounds .................................. 36-53
$^{1}H$-NMR spectrum of compound 1

$^{1}H$-NMR spectrum of compound 2

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**1H-NMR spectrum of compound 2a**

![1H-NMR spectrum of compound 2a](image)

**1H-NMR spectrum of compound 3**

![1H-NMR spectrum of compound 3](image)
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$^1$H-NMR spectrum of compound 8g

$^1$H-NMR spectrum of compound 8h
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$^1$H-NMR spectrum of compound 8j

$^1$H-NMR spectrum of compound 9
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$^1$H-NMR spectrum of compound 11

$^1$H-NMR spectrum of compound 12
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$^1$H-NMR spectrum of compound 13d

$^1$H-NMR spectrum of compound 13g
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$^1$H-NMR spectrum of compound 14c

$^1$H-NMR spectrum of compound 14d
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$^1$H-NMR spectrum of compound 14i

$^1$H-NMR spectrum of compound 14j
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$^1$H-NMR spectrum of compound 15e

$^1$H-NMR spectrum of compound 16a
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**1H-NMR spectrum of compound 16d**

![1H-NMR spectrum of compound 16d](image)

**1H-NMR spectrum of compound 16e**

![1H-NMR spectrum of compound 16e](image)
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$^{13}$C-NMR spectrum of compound 12

$^{15}$C-NMR spectrum of compound 13d

$\times =$ Impurity peaks

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$^{13}$C-NMR spectrum of compound 13i

$^{13}$C-NMR spectrum of compound 14a
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\(^{13}\text{C}\)-NMR spectrum of compound 14d

\(^{13}\text{C}\)-NMR spectrum of compound 14e
$^{13}$C-NMR spectrum of compound 14f

$^{13}$C-NMR spectrum of compound 14g

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13C-NMR spectrum of compound 14h

13C-NMR spectrum of compound 14i
$^{13}$C-NMR spectrum of compound 14j

$^{13}$C-NMR spectrum of compound 15b
$^{13}$C-NMR spectrum of compound 15c

$^{13}$C-NMR spectrum of compound 15d
$^{13}$C-NMR spectrum of compound 15e

$^{14}$C-NMR spectrum of compound 16a
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$^{13}$C-NMR spectrum of compound 16d

$^{13}$C-NMR spectrum of compound 16e
Mass spectrum of compound 1

Mass spectrum of compound 2

== Shidamdu LabSolutions Data Report ==

<Spectrum>

Line:1 R.Time:1.033(Scan#63)
MassPeaks:395
RawMode:Averaged 0.700-1.633(43-99); BasePeak:247.05(3695471)
BG Mode:Averaged 0.000-0.733(1-46) Segment 1 - Event 1
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Mass spectrum of compound 3a

--- Shimadzu LabSolutions Data Report ---

<Spectrum>

Line#: 1  R.Time: 1.067(Scan#: 65)  
MassPeaks: 477  
RawMode/Averaged 0.600-1.667(37-101)  
BasePeak: 317.10(6178998)  
BG Mode/Averaged 0.000-0.667(1-41)  
Segment 1 - Event 1

Mass spectrum of compound 13a
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Mass spectrum of compound 13i

Mass spectrum of compound 13j
Mass spectrum of compound 14a

Mass spectrum of compound 14c

Supporting Information,
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Mass spectrum of compound 14b
Mass spectrum of compound 14b
Mass spectrum of compound 14d

Mass spectrum of compound 14e
Mass spectrum of compound 14h

Mass spectrum of compound 14i
Mass spectrum of compound 15a
Mass spectrum of compound 15a
Mass spectrum of compound 14j

Mass spectrum of compound 15b

Supporting Information,
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Mass spectrum of compound 15c

Mass spectrum of compound 15d
Mass spectrum of compound 15e

Mass spectrum of compound 16a
Mass spectrum of compound 16b

Mass spectrum of compound 16c
Mass spectrum of compound 16d

Mass spectrum of compound 16e