SUPPLEMENTARY INFORMATION

A novel reaction of 2-phenacyl mercaptoimidazole with acetic anhydride: Formation of an imidazothiazole with loss of a phenyl group

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Figure 1: $^1$H NMR spectrum of 1-(3-methylimidazo[2,1-$b$][1,3]thiazol-2-yl)ethanonehydrobromide (14)
Figure 2: Expanded $^1$H NMR spectrum of 1-(3-methylimidazo[2,1-$b$][1,3]thiazol-2-yl)ethanonehydrobromide(14)
Figure 3: $^{13}$C NMR spectrum of 1-(3-methylimidazo[2,1-$b$][1,3]thiazol-2-yl)ethanone hydrobromide (14)
Figure 4. Expanded $^{13}$C NMR spectrum of 1-(3-methylimidazo[2,1-$b$][1,3]thiazol-2-yl)ethanonehydrobromide (14)

Figure 5. DEPT spectrum of 1-(3-methylimidazo[2,1-$b$][1,3]thiazol-2-yl)ethanonehydrobromide (14)
Figure 6. Mass spectrum of 1-(3-methylimidazo[2,1-b][1,3]thiazol-2-yl)ethanonehydrobromide (14)
Figure 7. IR spectrum of 1-(3-methylimidazo[2,1-b][1,3]thiazol-2-yl)ethanonehydrobromide (14)

Figure 8. $^1$H NMR spectrum of 2-((1H-imidazol-2-yl)sulfanyl)-1-phenylethanonehydrobromide (12)
Figure 9. Expanded $^1$H NMR spectrum of 2-($1H$-imidazol-2-ylsulfanyl)-1-phenylethanone (12)
Figure 10. Mass spectrum of 2-(1H-imidazol-2-ylsulfanyl)-1-phenylethanone hydrobromide (12)
Figure 11. $^1$H NMR spectrum of 1,1'-(2-thioxo-1H-imidazole-1,3(2H)-diyl)diethanone (16)
Figure 12. Mass spectrum of 1,1’-(2-thioxo-1$H$-imidazole-1,3(2$H$)-diyldiethyl)diethanone (16)
Figure 13. $^1$H NMR spectrum of 2-(1H-benzimidazol-2-ylsulfanyl)-1-phenylethanone hydrobromide (17)
Figure 14. Expanded $^1$H NMR spectrum of 2-(1H-benzimidazol-2-ylsulfanyl)-1-phenylethanone hydrobromide (17)
Figure 15. Mass spectrum of 2-(1H-benzimidazol-2-ylsulfanyl)-1-phenylethanone hydrobromide (17)
Figure 16. $^1$H NMR spectrum 1-(3-methyl[1,3]thiazolo[3,2-$\alpha$]benzimidazol-2-yl)ethanone (18)
Figure 17. Mass spectrum of 1-(3-methyl[1,3]thiazolo[3,2-a]benzimidazol-2-yl)ethanone (18)