Supplementary Material for

A convenient and eco-friendly cerium(III) chloride-catalyzed synthesis of
methoxime derivatives of aromatic aldehydes and ketones

Iván Cortés, Teodoro S. Kaufman* and Andrea B. J. Bracca*

Instituto de Química Rosario (IQUIR, CONICET-UNR) and Facultad de Ciencias Bioquímicas y Farmacéuticas, Universidad Nacional de Rosario, Suipacha 531, S2002LRK Rosario, Argentina

E-mail: kaufman@iquir-conicet.gov.ar; bracca@iquir-conicet.gov.ar
TABLE OF CONTENTS

**Figure S1.** $^1$H NMR (300 MHz) spectrum of compound 2a in CDCl$_3$  
**Figure S2.** $^{13}$C NMR (75 MHz) spectrum of compound 2a in CDCl$_3$  
**Figure S3.** $^1$H NMR (300 MHz) spectrum of compound 2b in CDCl$_3$  
**Figure S4.** $^{13}$C NMR (75 MHz) spectrum of compound 2b in CDCl$_3$  
**Figure S5.** $^1$H NMR (300 MHz) spectrum of compound 2c in CDCl$_3$  
**Figure S6.** $^{13}$C NMR (75 MHz) spectrum of compound 2c in CDCl$_3$  
**Figure S7.** $^1$H NMR (300 MHz) spectrum of compound 2d in CDCl$_3$  
**Figure S8.** $^{13}$C NMR (75 MHz) spectrum of compound 2d in CDCl$_3$  
**Figure S9.** $^1$H NMR (300 MHz) spectrum of compound 2e in CDCl$_3$  
**Figure S10.** $^{13}$C NMR (75 MHz) spectrum of compound 2e in CDCl$_3$  
**Figure S11.** $^1$H NMR (300 MHz) spectrum of compound 2f in CDCl$_3$  
**Figure S12.** $^{13}$C NMR (75 MHz) spectrum of compound 2f in CDCl$_3$  
**Figure S13.** $^1$H NMR (300 MHz) spectrum of compound 2g in CDCl$_3$  
**Figure S14.** $^{13}$C NMR (75 MHz) spectrum of compound 2g in CDCl$_3$  
**Figure S15.** $^1$H NMR (300 MHz) spectrum of compound 2h in CDCl$_3$  
**Figure S16.** $^{13}$C NMR (75 MHz) spectrum of compound 2h in CDCl$_3$  
**Figure S17.** COSY spectrum of compound 2h in CDCl$_3$  
**Figure S18.** HSQC spectrum of compound 2h in CDCl$_3$  
**Figure S19.** $^1$H NMR (300 MHz) spectrum of compound 2i in CDCl$_3$  
**Figure S20.** $^{13}$C NMR (75 MHz) spectrum of compound 2i in CDCl$_3$  
**Figure S21.** HSQC spectrum of compound 2i in CDCl$_3$  
**Figure S22.** $^1$H NMR (300 MHz) spectrum of compound 2j in CDCl$_3$  
**Figure S23.** $^{13}$C NMR (75 MHz) spectrum of compound 2j in CDCl$_3$  
**Figure S24.** COSY spectrum of compound 2j in CDCl$_3$  
**Figure S25.** HSQC spectrum of compound 2j in CDCl$_3$  
**Figure S26.** $^1$H NMR (300 MHz) spectrum of compound 2k in CDCl$_3$  
**Figure S27.** $^{13}$C NMR (75 MHz) spectrum of compound 2k in CDCl$_3$  
**Figure S28.** $^1$H NMR (300 MHz) spectrum of compound 2l in CDCl$_3$  
**Figure S29.** $^{13}$C NMR (75 MHz) spectrum of compound 2l in CDCl$_3$  
**Figure S30.** COSY spectrum of compound 2l in CDCl$_3$  
**Figure S31.** HSQC spectrum of compound 2l in CDCl$_3$
| Figure | Description | Source |
|--------|-------------|--------|
| S32    | $^1$H NMR (300 MHz) spectrum of compound 2m in CDCl$_3$ | S20    |
| S33    | $^{13}$C NMR (75 MHz) spectrum of compound 2m in CDCl$_3$ | S20    |
| S34    | $^1$H NMR (300 MHz) spectrum of compound 2n in CDCl$_3$ | S21    |
| S35    | $^{13}$C NMR (75 MHz) spectrum of compound 2n in CDCl$_3$ | S21    |
| S36    | $^1$H NMR (300 MHz) spectrum of compound 2o in CDCl$_3$ | S22    |
| S37    | $^{13}$C NMR (75 MHz) spectrum of compound 2o in CDCl$_3$ | S22    |
| S38    | $^1$H NMR (300 MHz) spectrum of compound 2p in CDCl$_3$ | S23    |
| S39    | $^{13}$C NMR (75 MHz) spectrum of compound 2p in CDCl$_3$ | S23    |
| S40    | $^1$H NMR (300 MHz) spectrum of compound 2q in CDCl$_3$ | S24    |
| S41    | $^{13}$C NMR (75 MHz) spectrum of compound 2q in CDCl$_3$ | S24    |
| S42    | $^1$H NMR (300 MHz) spectrum of compound 2r in CDCl$_3$ | S25    |
| S43    | $^{13}$C NMR (75 MHz) spectrum of compound 2r in CDCl$_3$ | S25    |
| S44    | $^1$H NMR (300 MHz) spectrum of compound 2s in CDCl$_3$ | S26    |
| S45    | $^{13}$C NMR (75 MHz) spectrum of compound 2s in CDCl$_3$ | S26    |
| S46    | $^1$H NMR (300 MHz) spectrum of compound 2t in CDCl$_3$ | S27    |
| S47    | $^{13}$C NMR (75 MHz) spectrum of compound 2t in CDCl$_3$ | S27    |
| S48    | COSY spectrum of compound 2t in CDCl$_3$ | S28    |
| S49    | HSQC spectrum of compound 2t in CDCl$_3$ | S28    |
| S50    | $^1$H NMR (300 MHz) spectrum of compound 2u in CDCl$_3$ | S29    |
| S51    | $^{13}$C NMR (75 MHz) spectrum of compound 2u in CDCl$_3$ | S29    |
| S52    | COSY spectrum of compound 2u in CDCl$_3$ | S30    |
| S53    | HSQC spectrum of compound 2u in CDCl$_3$ | S30    |
| S54    | $^1$H NMR (300 MHz) spectrum of compound 2v in CDCl$_3$ | S31    |
| S55    | $^{13}$C NMR (75 MHz) spectrum of compound 2v in CDCl$_3$ | S31    |
| S56    | HSQC spectrum of compound 2v in CDCl$_3$ | S32    |
| S57    | $^1$H NMR (300 MHz) spectrum of compound 2w in CDCl$_3$ | S32    |
| S58    | $^{13}$C NMR (75 MHz) spectrum of compound 2w in CDCl$_3$ | S33    |
| S59    | COSY spectrum of compound 2w in CDCl$_3$ | S34    |
| S60    | HSQC spectrum of compound 2w in CDCl$_3$ | S34    |
Figure S1. $^1$H NMR (300 MHz) spectrum of compound 2a.

Figure S2. $^{13}$C NMR (75 MHz) spectrum of compound 2a.
Figure S3. $^1$H NMR (300 MHz) spectrum of compound 2b.

Figure S4. $^{13}$C NMR (75 MHz) spectrum of compound 2b.
Figure S5. $^1$H NMR (300 MHz) spectrum of compound 2c.

Figure S6. $^{13}$C NMR (75 MHz) spectrum of compound 2c.
Figure S7. $^1$H NMR (300 MHz) spectrum of compound 2d.

Figure S8. $^{13}$C NMR (75 MHz) spectrum of compound 2d.
Figure S9. $^1$H NMR (300 MHz) spectrum of compound 2e.

Figure S10. $^{13}$C NMR (75 MHz) spectrum of compound 2e.
Figure S11. $^1$H NMR (300 MHz) spectrum of compound 2f.

Figure S12. $^{13}$C NMR (75 MHz) spectrum of compound 2f.
Figure S13. $^1$H NMR (300 MHz) spectrum of compound 2g.

Figure S14. $^{13}$C NMR (75 MHz) spectrum of compound 2g.
Figure S15. $^1$H NMR (300 MHz) spectrum of compound 2h.

Figure S16. $^{13}$C NMR (75 MHz) spectrum of compound 2h.
Figure S17. COSY spectrum of compound 2h.

Figure S18. HSQC spectrum of compound 2h.
Figure S19. $^1$H NMR (300 MHz) spectrum of compound 2i.

Figure S20. $^{13}$C NMR (75 MHz) spectrum of compound 2i.
Figure S21. HSQC spectrum of compound 2i.
Figure S22. $^1$H NMR (300 MHz) spectrum of compound 2j.

Figure S23. $^{13}$C NMR (75 MHz) spectrum of compound 2j.
Figure S24. COSY spectrum of compound 2j.

Figure S25. HSQC spectrum of compound 2j.
Figure S26. $^1$H NMR (300 MHz) spectrum of compound 2k.

Figure S27. $^{13}$C NMR (75 MHz) spectrum of compound 2k.
Figure S28. $^1$H NMR (300 MHz) spectrum of compound 2l.

Figure S29. $^{13}$C NMR (75 MHz) spectrum of compound 2l.
Figure S30. COSY spectrum of compound 2l.

Figure S31. HSQC spectrum of compound 2l.
Figure S32. $^1$H NMR (300 MHz) spectrum of compound 2m.

Figure S33. $^{13}$C NMR (75 MHz) spectrum of compound 2m.
Figure S34. $^1$H NMR (300 MHz) spectrum of compound 2n.

Figure S35. $^{13}$C NMR (75 MHz) spectrum of compound 2n.
Figure S36. $^1$H NMR (300 MHz) spectrum of compound 2o.

Figure S37. $^{13}$C NMR (75 MHz) spectrum of compound 2o.
Figure S38. $^1$H NMR (300 MHz) spectrum of compound 2p.

Figure S39. $^{13}$C NMR (75 MHz) spectrum of compound 2p.
Figure S40. $^1$H NMR (300 MHz) spectrum of compound 2q.

Figure S41. $^{13}$C NMR (75 MHz) spectrum of compound 2q.
Figure S42. $^1$H NMR (300 MHz) spectrum of compound 2r.

Figure S43. $^{13}$C NMR (75 MHz) spectrum of compound 2r.
Figure S44. $^1$H NMR (300 MHz) spectrum of compound 2s.

Figure S45. $^{13}$C NMR (75 MHz) spectrum of compound 2s.
Figure S46. $^1$H NMR (300 MHz) spectrum of compound 2t.

Figure S47. $^{13}$C NMR (75 MHz) spectrum of compound 2t.
Figure S48. COSY spectrum of compound 2t.

Figure S49. HSQC spectrum of compound 2t.
Figure S50. $^1$H NMR (300 MHz) spectrum of compound 2u.

Figure S51. $^{13}$C NMR (75 MHz) spectrum of compound 2u.
Figure S52. COSY spectrum of compound 2u.

Figure S53. HSQC spectrum of compound 2u.
Figure S54. $^1$H NMR (300 MHz) spectrum of compound 2v.

Figure S55. $^{13}$C NMR (75 MHz) spectrum of compound 2v.
Figure S56. HSQC spectrum of compound 2v.
Figure S57. $^1$H NMR (300 MHz) spectrum of compound 2w.

Figure S58. $^{13}$C NMR (75 MHz) spectrum of compound 2w.
Figure S59. COSY spectrum of compound 2w.

Figure S60. HSQC spectrum of compound 2w.