

## Corrigendum

### Highly selective direct aldol reaction organocatalyzed by (S)-BINAM-L-prolinamide and benzoic acid using $\alpha$ -chalcogen-substituted ketones as donors [*Arkivoc* 2007 (iv) 260-269]

Gabriela Guillena, María del Carmen Hita, and Carmen Nájera\*

*Departamento de Química Orgánica and Instituto de Síntesis Orgánica (ISO),  
Universidad de Alicante, Apartado 99, 03080 Alicante, Spain  
E-mail: [cnajera@ua.es](mailto:cnajera@ua.es)*

The authors apologize for the following errors in the above paper.

On **Table 1**, the following data concerning to compounds **2c** should be changed:

Ent.	Isomer ratio <sup>c</sup>		ee(%) <sup>d</sup>		
	Regio. (2/3)	dr ( <i>anti/syn</i> )	<i>anti-2</i>	<i>syn-2</i>	<i>iso-3</i>
15	2.4:1	4:1	88	19	60
16	7.3:1	9:1	85	35	63

Therefore, the text on page 264 concerning Table 1 entries 15 and 16, should be revised as follows:

“In our previous studies we found that using  $\alpha$ -benzyloxyacetone in DMF at 0 °C after 5 d, the major isomer was the regioisomer *anti-2c*.<sup>12</sup> (Table 1, entry 15). When the reaction was performed in the presence of benzoic acid, better regio- and diastereoselectivity was achieved, the major isomer *anti-2c* being obtained in 39 h with a 9:1 dr and 85% ee (Table 1, entry 16).”

On the text, the conclusion paragraph should be corrected as:

“Whereas  $\alpha$ -benzyloxyacetone afforded mainly the *anti-2c* product (dr up to 9:1).”

In the experimental section the following corrections should be made:

***iso-1-Benzyloxy-4-hydroxy-4-(4'-nitrophenyl)-2-butanone (3c)***. Yellow oil;  $R_f$  = 0.43 (Hexane/Ethyl acetate 3:2); IR (neat):  $\nu$  = 3396 br, 2295, 1730, 1706, 1527, 1347, 1099, 1017  $\text{cm}^{-1}$ .  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ):  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ):  $\delta$  = 2.92 (t, 2H,  $J$  = 2.7 Hz,  $\text{CH}_2\text{CHOH}$ ), 4.07 (s, 2H,  $\text{CH}_2\text{OCH}_2\text{Ph}$ ), 4.53 (s, 2H,  $\text{OCH}_2\text{Ph}$ ), 4.61 (d, 1H,  $J$  = 11.5 Hz,

*HCOH*), 5.28 (t, 1H,  $J = 5.2$  Hz, *HCOH*), 7.11 (m, 1H, ArH), 7.25 (m, 4H, ArH), 7.55 (d, 2H,  $J = 8.7$  Hz, ArH), 8.18 (d, 2H,  $J = 8.7$  Hz, ArH).  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ):  $\delta = 25.3$  ( $\text{CH}_3$ ), 29.7 ( $\text{CH}_2$ ), 64.4 ( $\text{HCOCH}_2\text{Ph}$ ), 68.8 (*CHOH*), 73.6 (*CHOH*), 123.5, 123.8, 126.4, 127.0, 127.9, 128.2, 128.3, 128.55, 128.6 (ArC), 149.9 ( $\text{C}=\text{O}$ ). HRMS(DIP) ( $m/z$ ): Calcd for ( $\text{M}^+ - \text{H}_2\text{O}$ ): 297.1001; found: 297.0974; HPLC (Chiralpak AD; 1.2 mL/min; 97:3 Hex/IPA);  $t_{\text{Rmaj}} = 190.9$ ,  $t_{\text{Rmin}} = 205.1$ .

***anti*-3-Benzoyloxy-4-hydroxy-4-(4'-nitrophenyl)-2-butanone (*anti*-2c).** Pale yellow oil;  $R_f = 0.55$  (Hexane/Ethyl acetate 3:2); IR (neat):  $\nu = 3435\text{br}$ , 2924, 1715, 1605, 1522, 1347, 1216, 1110  $\text{cm}^{-1}$ .  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ):  $\delta = 2.16$  (s, 3H,  $\text{CH}_3$ ), 3.13 (br s, 1H, OH), 3.90 (d, 1H,  $J = 6.4$  Hz,  $\text{HCOCH}_2\text{Ph}$ ), 4.30 (d, 1H,  $J = 11.5$  Hz,  $\text{OCH}_2\text{Ph}$ ), 4.51 (d, 1H,  $J = 11.5$  Hz,  $\text{OCH}_2\text{Ph}$ ), 5.03 (d, 1H,  $J = 8$  Hz, *HCOH*), 7.15 (m, 1H, ArH), 7.31 (m, 4H, ArH), 7.54 (d, 2H,  $J = 8.7$  Hz, ArH), 8.19 (d, 2H,  $J = 8.7$  Hz, ArH).  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ):  $\delta = 27.6$  ( $\text{CH}_3$ ), 29.7 ( $\text{CH}_2$ ), 73.5 ( $\text{HCOCH}_2\text{Ph}$ ), 83.9 (*CHOH*), 123.4, 123.8, 126.4, 127.0, 127.7, 128.1, 128.4, 128.6, 136.2 (ArC), 146.8 ( $\text{C}=\text{O}$ ). HRMS(DIP) ( $m/z$ ): Calcd for ( $\text{M} - \text{H}_2\text{O}$ ): 297.1001; found: 297.1022; HPLC (Chiracel OD-H; 1 mL/min; 93:7 Hex/IPA);  $t_{\text{Rmin}} = 27.0$ ,  $t_{\text{Rmaj}} = 34.2$ .

***syn*-3-Benzoyloxy-4-hydroxy-4-(4'-nitrophenyl)-2-butanone (*syn*-2c).** Pale yellow oil;  $R_f = 0.52$  (hexane/ethyl acetate 3:2); IR (neat):  $\nu = 3418\text{br}$ , 2918, 1727, 1596, 1516, 1361, 1250, 1105  $\text{cm}^{-1}$ .  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ):  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ):  $\delta = 2.17$  (s, 3H,  $\text{CH}_3$ ), 3.39 (br s, 1H, OH), 3.98 (d, 1H,  $J = 5$  Hz,  $\text{HCOCH}_2\text{Ph}$ ), 4.07 (s, 1H,  $\text{OCH}_2\text{Ph}$ ), 4.60 (s, 1H,  $\text{OCH}_2\text{Ph}$ ), 5.08 (m, 1H, *HCOH*), 7.13 (m, 1H, ArH), 7.27 (m, 4H, ArH), 7.54 (d, 2H,  $J = 8.7$  Hz, ArH), 8.17 (d, 2H,  $J = 8.7$  Hz, ArH).  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ):  $\delta = 47.5$  ( $\text{CH}_2\text{CHOH}$ ), 68.8 (*CHOH*), 73.6 ( $\text{CH}_2\text{Ph}$ ), 75.2 ( $\text{OCH}_2\text{C}=\text{O}$ ), 123.8, 126.4, 128.0, 128.3, 128.4, 128.6, 135.9 (ArC), 150.0 ( $\text{C}=\text{O}$ ). HRMS(DIP) ( $m/z$ ): Calcd for ( $\text{M} - \text{C}_7\text{H}_7$ ): 225.0637; found: 225.0663; HPLC (Chiracel OD-H; 1 mL/min; 93:7 Hex./IPA);  $t_{\text{Rmaj}} = 29.9$ ,  $t_{\text{Rmin}} = 31.9$ .

It should be noted that we are making this correction in other related publication: *Tetrahedron: Asymmetry* **2006**, *17*, 1027–1031.