## 3 $\beta$-Tosyloxy-elemo-lanost-8-en-24-one

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The sodium periodate is prepared in situ with equimolecular quantity of soda $\mathrm{NaOH}(0.5 \mathrm{~g} ; 12.50 \mathrm{mmol})$ and periodic acid $\mathrm{H}_{5} \mathrm{IO}_{6}(2.85 \mathrm{~g} ; 12.50 \mathrm{mmol})$, the mixture is stirred at $0^{\circ} \mathrm{C}$. After $15 \mathrm{~min}, 5 \mathrm{ml}$ of $\mathrm{CCl}_{4}, 5$ ml of $\mathrm{H}_{3} \mathrm{CCN}$ and $93.03 \mathrm{mg}(0.12 \mathrm{mmol})$ of ruthenium trichloride ${ }^{1,2}$ were added. The mixture was stirred during 15 min , and then $1.85 \mathrm{~g}(3.12 \mathrm{mmol})$ of $\underline{\mathbf{1}}^{3}$ was added. The reaction was left under stirring at $25^{\circ} \mathrm{C}$ for 30 h , then 20 ml of distilled water was added and the reactional mixture was extracted with the dichloromethane. After filtration on silica gel column to eliminate $\mathrm{RuO}_{4}$, the organic layer was recovered, dried by $\mathrm{Na}_{2} \mathrm{SO}_{4}$ and evaporated under reduce pressure. The residue was purified on silica gel column using hexane: ethyl acetate ( $96: 4$ ) as eluent to give $1.30 \mathrm{~g}(2.18 \mathrm{mmol})$ of $\underline{\mathbf{2}}$ in $70 \%$ yield.

Melting point: 115-116 ${ }^{\circ} \mathrm{C}$ (Hexane)
MS (EI, 70eV): $596\left(\mathrm{M}^{+}\right)$.
${ }^{1} \mathrm{H}$ NMR $\left(300 \mathrm{MHz}, \mathrm{CDCl}_{3}\right) \mathrm{d}(\mathrm{ppm}): 4.22\left(1 \mathrm{H}-3, \mathrm{dd}, \mathrm{J}_{1}=12 \mathrm{~Hz}, \mathrm{~J}_{2}=4 \mathrm{~Hz}\right) ; 7.96(2 \mathrm{H}-2$ ', d, J = 8.8 Hz$)$; 7.35 (2H-3', d, J = 8.8 Hz ); 2.48 (3H-5’); 0.76 ( $3 \mathrm{H}-18, \mathrm{~s}$ ); 0.85 ( $3 \mathrm{H}-19$, s); 0.93 ( $3 \mathrm{H}-21, \mathrm{~d}, \mathrm{~J}=6 \mathrm{~Hz}$ ); 2.60 (2H-23, m); 1.10 (3H-26, d: J = 2 Hz ); 1.11 (3H-27, d, J = 2 Hz ); 0.80 (3H-28, s); 0.95 (3H-29, s); 1.05 (3H-30, s).
${ }^{13} \mathrm{C}$ NMR ( $75 \mathrm{MHz}, \mathrm{CDCl}_{3}$ )d (ppm): 35.15 (C-1); 27.52 (C-2); 91.00 (C-3); 36.25 (C-4); 49.98 (C-5); 38.78 (C-6); 28.03 (C-7); 133.66 (C-8); 134.93 (C-9); 36.25 (C-10); 20.20 (C-11); 25.47 (C-12); 44.16 (C-13); 50.16 (C-14); 30.76 (C-15); 30.21 (C-16); 51.33 (C-17); 18.64 (C-18); 18.99 (C-19); 37.01 (C-20); 21.54 (C-21); 37.59 (C-22); 29.84 (C-23); 215.50 (C-24); 35.64 (C-25); 21.72 (C-26); 22.40 (C-27); 31.80 (C-25); 21.70 (C-26); 18.80 (C-27); 14.5 (C-28); 16.41 (C-29); 144.35 (C-1’); 129.76 (C-2’); 127.77 (C-3’); 134.82 (C-4’); 21.25 (C-5’).

MS (m/z): 596 (35\%), 425 (48\%), 297 (75\%).

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