

Article

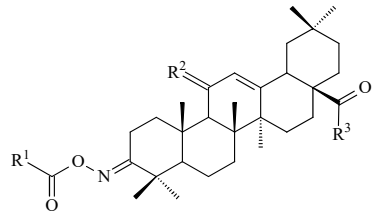
# Acylation of Oleanolic Acid Oximes Effectively Improves Cytotoxic Activity in In Vitro Studies

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**Supplementary Materials SM.S1.** The detailed results of SAR analysis

**Table S1.** Predicted activity of oleanolic acid (**1**) its oximes (**2** – **4**) and their acyllderivatives (**5a** – **5g**, **6a** – **6g** and **7a** – **7g**) determined by the PASS method.

**Legend:** *P<sub>a</sub>* – probability of activity; *P<sub>i</sub>* – probability of inactivity; *inh.* – inhibitor; *stim.* – stimulator; *antag.* – antagonist, *TF NF* – transcription factor, *Membr.* – membrane

1.000 – 0.950				0.949 – 0.900		0.899 – 0.850		0.849 – 0.800		0.799 – 0.750		0.749 – 0.700		< 0.700	
Compound structure				P <sub>a</sub> factor (and P <sub>i</sub> factor) for P <sub>a</sub> ≥ 0.700											
				Antineoplastic	Apoptosis agonist	Caspase 3 stim.	Caspase 8 stim.	Hepatoprotectant	Insulin promoter	Membr. integrity antag.	Oxidoreductase inhib.	TF NF kappa B stim.	TF stim.		
Comp. No.	R <sup>1</sup>	R <sup>2</sup>	R <sup>3</sup>												
2	H			0.824 (0.009)	0.855 (0.005)	0.952 (0.003)	0.745 (0.003)	0.747 (0.005)	0.776 (0.004)	0.797 (0.007)	< 0.700	0.896 (0.002)	0.896 (0.002)		
5a	CH <sub>3</sub> -	H <sub>2</sub>	OMe	0.730 (0.021)	0.769 (0.010)	0.777 (0.007)	0.761 (0.002)	0.757 (0.005)	0.743 (0.005)	0.813 (0.006)	< 0.700	0.886 (0.002)	0.886 (0.002)		
5b	Cl-CH <sub>2</sub> -			0.809 (0.011)	0.747 (0.011)	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	0.732 (0.012)	0.873 (0.002)	0.873 (0.002)		

5c	CH <sub>3</sub> -CH <sub>2</sub> -	O	OMe	< 0.700	0.720 (0.013)	0.712 (0.010)	0.738 (0.003)	0.727 (0.006)	0.751 (0.004)	0.792 (0.007)	< 0.700	0.878 (0.002)	0.878 (0.002)
5d	C <sub>6</sub> H <sub>5</sub> -			< 0.700	0.809 (0.008)	0.774 (0.007)	0.715 (0.003)	0.716 (0.007)	0.775 (0.004)	0.777 (0.008)	< 0.700	0.884 (0.002)	0.884 (0.002)
5e	2-NO <sub>2</sub> -C <sub>6</sub> H <sub>4</sub> -			< 0.700	0.748 (0.011)	0.739 (0.009)	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	0.848 (0.002)	0.848 (0.002)
5f	4-NO <sub>2</sub> -C <sub>6</sub> H <sub>4</sub> -			< 0.700	0.801 (0.008)	0.794 (0.006)	0.716 (0.003)	0.775 (0.005)	< 0.700	0.764 (0.009)	< 0.700	0.867 (0.002)	0.867 (0.002)
5g	2,4-di-NO <sub>2</sub> -C <sub>6</sub> H <sub>3</sub> -			< 0.700	0.762 (0.010)	0.762 (0.008)	< 0.700	0.737 (0.006)	< 0.700	< 0.700	< 0.700	0.834 (0.002)	0.834 (0.002)
3	H	O	OMe	0.828 (0.009)	0.858 (0.005)	0.885 (0.004)	< 0.700	0.742 (0.006)	< 0.700	< 0.700	< 0.700	0.883 (0.002)	0.883 (0.002)
6a	CH <sub>3</sub> -			0.741 (0.020)	0.781 (0.009)	< 0.700	< 0.700	0.752 (0.005)	< 0.700	< 0.700	0.735 (0.012)	0.872 (0.002)	0.872 (0.002)
6b	Cl-CH <sub>2</sub> -			0.814 (0.010)	0.758 (0.010)	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	0.804 (0.006)	0.858 (0.002)	0.858 (0.002)
6c	CH <sub>3</sub> -CH <sub>2</sub> -			< 0.700	0.733 (0.012)	< 0.700	< 0.700	0.720 (0.007)	< 0.700	< 0.700	< 0.700	0.864 (0.002)	0.864 (0.002)
6d	C <sub>6</sub> H <sub>5</sub> -			0.706 (0.025)	0.815 (0.007)	< 0.700	< 0.700	0.709 (0.007)	< 0.700	< 0.700	0.715 (0.014)	0.870 (0.002)	0.870 (0.002)
6e	2-NO <sub>2</sub> -C <sub>6</sub> H <sub>4</sub> -			< 0.700	0.758 (0.010)	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	0.766 (0.009)	0.832 (0.002)	0.832 (0.002)
6f	4-NO <sub>2</sub> -C <sub>6</sub> H <sub>4</sub> -			0.703 (0.026)	0.811 (0.007)	< 0.700	< 0.700	0.768 (0.005)	< 0.700	< 0.700	0.733 (0.012)	0.857 (0.002)	0.857 (0.002)
6g	2,4-di-NO <sub>2</sub> -C <sub>6</sub> H <sub>3</sub> -			0.706 (0.025)	0.776 (0.009)	< 0.700	< 0.700	0.728 (0.006)	< 0.700	< 0.700	0.751 (0.010)	0.823 (0.002)	0.823 (0.002)
4	H	H <sub>2</sub>	Mor	0.819 (0.010)	0.795 (0.008)	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	0.819 (0.002)	0.819 (0.002)
7a	CH <sub>3</sub> -			0.724 (0.022)	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	0.802 (0.003)	0.802 (0.003)
7b	Cl-CH <sub>2</sub> -			0.798 (0.012)	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	0.785 (0.003)	0.785 (0.003)
7c	CH <sub>3</sub> -CH <sub>2</sub> -			< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	0.793 (0.003)	0.793 (0.003)
7d	C <sub>6</sub> H <sub>5</sub> -			< 0.700	0.710 (0.014)	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	0.797 (0.003)	0.797 (0.003)
7e	2-NO <sub>2</sub> -C <sub>6</sub> H <sub>4</sub> -			< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	0.755 (0.003)	0.755 (0.003)
7f	4-NO <sub>2</sub> -C <sub>6</sub> H <sub>4</sub> -			< 0.700	0.710 (0.014)	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	0.781 (0.003)	0.781 (0.003)
7g	2,4-di-NO <sub>2</sub> -C <sub>6</sub> H <sub>3</sub> -			< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	< 0.700	0.745 (0.004)	0.745 (0.004)