

Correction

Correction: Siódmiak et al. The High ‘Lipolytic Jump’ of Immobilized Amano A Lipase from *Aspergillus niger* in Developed ‘ESS Catalytic Triangles’ Containing Natural Origin Substrates. *Catalysts* 2022, 12, 853

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The authors wish to make the following corrections to this paper [1]:

Table Legend

In the original publication, there was a mistake in the legend for Table 3. “IB-150A” in Table footnote 1 should be “support”. The correct legend appears below.

The corrected legend:

¹—the amount of lipase immobilized onto support (the difference between the initial lipase amount and the protein amount in the supernatant using Bradford’s method).



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Error in Table

In the original publication, there was a mistake in Table 2 as published. The error in the value of the L_L in avocado oil and the lack of “I” in “ U_I ” unit were found. The corrected version of Table 2 appears below.

The corrected version of Table 2:

Oils	LA_B ¹ (mg)	L_L ² (mg/g)	I_y ³ (%)	I_e ⁴ (%)	U_B ⁵ (μ mol/min)	U_I ⁶ (μ mol/min)
Peanut	6.1 ± 0.1	122.0 ± 2.0	61.0 ± 1.0	250.00	0.67 ± 0.10	1.67 ± 0.10
Blackberry	5.8 ± 0.1	116.0 ± 2.0	58.0 ± 1.0	158.82	2.83 ± 0.17	4.50 ± 0.35
Rapeseed	5.9 ± 0.2	118.0 ± 4.0	59.0 ± 2.0	113.33	2.50 ± 0.10	2.83 ± 0.29
Pumpkin seed	4.0 ± 0.3	80.0 ± 6.0	40.0 ± 3.0	2400.00	0.17 ± 0.09	4.00 ± 0.25
Walnut	5.7 ± 0.1	114.0 ± 2.0	57.0 ± 1.0	440.00	0.83 ± 0.17	3.67 ± 0.42
Sesame	6.5 ± 0.1	130.0 ± 2.0	65.0 ± 1.0	566.67	0.50 ± 0.10	2.83 ± 0.25
Avocado	6.3 ± 0.2	126.0 ± 4.0	63.0 ± 2.0	428.57	1.17 ± 0.10	5.00 ± 0.17
Rice	4.5 ± 0.1	90.0 ± 2.0	45.0 ± 1.0	134.38	5.33 ± 0.51	7.17 ± 0.09
Corn	6.1 ± 0.1	122.0 ± 2.0	61.0 ± 1.0	1266.67	0.50 ± 0.10	6.33 ± 0.26
Black cumin	6.2 ± 0.1	124.0 ± 2.0	62.0 ± 1.0	240.00	1.67 ± 0.10	4.00 ± 0.29
Hemp	4.5 ± 0.2	90.0 ± 4.0	45.0 ± 2.0	516.67	1.00 ± 0.10	5.17 ± 0.17
Safflower	5.2 ± 0.2	104.0 ± 4.0	52.0 ± 2.0	377.78	1.50 ± 0.10	5.67 ± 0.25
Grape seed	5.0 ± 0.1	100.0 ± 2.0	50.0 ± 1.0	126.83	6.83 ± 0.35	8.67 ± 0.17
Hazelnut	4.4 ± 0.2	88.0 ± 4.0	44.0 ± 2.0	433.33	0.50 ± 0.10	2.17 ± 0.17
Evening primrose	4.4 ± 0.1	88.0 ± 2.0	44.0 ± 1.0	314.29	1.17 ± 0.17	3.67 ± 0.10
Argan	4.6 ± 0.2	92.0 ± 4.0	46.0 ± 2.0	600.00	0.50 ± 0.10	3.00 ± 0.17
Milk thistle	4.6 ± 0.2	92.0 ± 4.0	46.0 ± 2.0	343.75	2.67 ± 0.10	9.17 ± 0.25
Borage	4.8 ± 0.1	98.0 ± 2.0	48.0 ± 1.0	980.00	0.83 ± 0.09	8.17 ± 0.10
Apricot kernel	5.0 ± 0.1	100.0 ± 2.0	50.0 ± 1.0	310.00	1.67 ± 0.26	5.17 ± 0.35
Olive	4.5 ± 0.2	90.0 ± 4.0	45.0 ± 2.0	38.24	11.33 ± 0.25	4.33 ± 0.17
Fish	4.0 ± 0.3	80.0 ± 6.0	40.0 ± 3.0	1433.33	0.50 ± 0.10	7.17 ± 0.17
Sunflower	4.7 ± 0.1	94.0 ± 2.0	47.0 ± 1.0	120.00	1.67 ± 0.26	2.00 ± 0.25
Linseed	4.4 ± 0.2	88.0 ± 4.0	44.0 ± 2.0	175.00	1.17 ± 0.17	9.17 ± 0.10

Missing Citation

1. In the original publication, Reference 14 was not cited. The citation has now been inserted in Section 1 (Paragraph 1) and should read:

The interfacial activation is specific for most lipases (e.g., *Aspergillus niger*, *Burkholderia cepacia*, *Candida rugosa*, *Thermomyces lanuginosus*, and *Rhizomucor miehei*). However, its occurrence has not been observed in some cases (e.g., lipase B from *Candida antarctica*, *Pseudomonas aeruginosa*, and *Burkholderia glumae*) [14].

2. In the original publication, Reference 60 was not cited. The citation has now been inserted in Section 1 (Paragraph 3) and should read:

In other studies conducted by the same authors, lipase AA-ANL was immobilized onto sponges from *Luffa cylindrica* in an attempt to improve the thermal and chemical stability of the catalyst [60].

Error in References Citation

1. In the original publication, the citation of a reference as Reference 60 is wrong. It should be Reference 21. Corrections have been made to Section 1 (Paragraph 3).

The corrected text:

Zdarta et al. [21] immobilized AA-ANL onto the surface of silica Stöber to improve the immobilization and testing of lipase kinetic parameters.

2. In the original publication, the citation of a reference as Reference 87 is wrong. It should be Reference 88. Corrections have been made to Section 2.8 (Paragraph 1).

The corrected text:

Zubiolo et al. [88], performing a similar experiment investigating catalytic parameters of free and immobilized ANL (encapsulation in a sol-gel matrix).

Text Correction

There were errors in the original publication.

1. Corrections have been made to the Abstract (the last sentence): “increased” should be replaced with “decreased”.

The corrected text:

The tested kinetic profile of immobilized AA-ANL confirmed the decreased affinity to the substrate relative to lipase in the free form.

2. Corrections have been made to Section 1 (Paragraph 3): “has been” should be replaced with “was”.

The corrected text:

Therefore, this method was commonly applied in the immobilization of many lipases, such as lipase B from *Candida antarctica* (CAL-B), lipase from *Candida methyllica* (CML), *Thermomyces lanuginosus* (TLL), *Rhizomucor miehei* (RML), or Amano lipase PS from *Burkholderia cepacia* (APS-BCL) [44,46–52].

3. Corrections have been made to Section 1 (Paragraph 3). “IB-150B” should be replaced with “IB-150A”.

The corrected text:

As mentioned above, the application of AA-ANL immobilized onto polymeric support IB-150A has not been studied.

4. Corrections have been made to Section 1 (Paragraph 3): “60” should be deleted.

The corrected text:

According to recent reports, ω 3 PUFA supplementation, especially DHA, can accelerate the regeneration of the organism after COVID-19 infection [68,69].

5. Corrections have been made to Section 2.1 (the seventh sentence): “fish, argan” was missed.

The corrected text:

In contrast, the tested lipase was the least active in sesame, fish, argan, corn, and hazelnut oils (0.50 ± 0.10 U).

6. Corrections have been made to Section 2.1 (Paragraph 1): “*languinosis*” should be replaced as “*lanuginosus*”.

The corrected text:

Glutaraldehyde has also been applied as a ‘spacer arm’ in the immobilization of lipase from *Thermomyces lanuginosus* on a multicomponent support system (metalorganic structure hydroxyapatite-glycyrrhizin-lithium) [77].

7. Corrections have been made to Section 2.8 (Paragraph 1): “modifying” should be replaced with “evaluating”.

The corrected text:

The kinetic studies of the reaction were performed with the aim of evaluating the affinity of immobilized AA-ANL to the substrate.

8. Corrections have been made to Section 2.8 (Paragraph 1): “increase” should be replaced with “decrease”, “immobilized” should be added before “lipase”, “immobilized AA-ANL” should be placed in brackets, and the sentence after “That is” should be enriched.

The corrected text:

With respect to the K_m parameter, an extremal decrease was observed in the affinity of the immobilized lipase to the substrate (immobilized AA-ANL ($K_m = 1827.95 \pm 0.17$ mg/mL) compared with free AA-ANL ($K_m = 29.20 \pm 0.08$ mg/mL)). That is, an essential effect of immobilization on lipase affinity to the hydrophobic substrate has been observed. It should be mentioned that the previous sections noted a significant increase in the lipolytic activity of the immobilized lipase compared to the free sample. Hence, the linear relationship between lipase activity and its affinity to the substrate has not been shown.

9. Corrections have been made to Section 2.8 (Paragraph 1): “higher” should be replaced with “lower”.

The corrected text:

The obtained results of immobilized lipase ($K_m = 115 \pm 4$ mM) juxtaposed those of with free lipase ($K_m = 77 \pm 2$ mM) indicate lower affinity of ANL to the substrate, which was confirmed in our study.

10. Corrections have been made to Section 2.8 (Paragraph 1): “an increase” should be replaced with “a change” and “by limiting mass transfer” should be replaced with “that affected limiting in mass transfer”.

The corrected text:

On the other hand, Zubiolo et al. [88], performing a similar experiment investigating catalytic parameters of free and immobilized ANL (encapsulation in a sol-gel matrix), achieved a change in enzyme affinity to the substrate that affected limiting in mass transfer.

11. Corrections have been made to Section 2.8 (Paragraph 1): “and steric hindrance” should be deleted.

The corrected text:

In our study, covalent interactions between lipase and the support seemed to form a rigid complex that prevented protein leakage due to the rotation limitation of other lipase molecules relative to one another.

12. Corrections have been made to Section 3.4 (Paragraph 1). The unit (mL) was missed.

The corrected text:

The reaction mixture (emulsion) containing the immobilized lipase was composed of supports with lipase, 3.0 mL phosphate buffer (pH 7.4), 2.5 mL of the appropriate oil (substrate), and 2.5 mL of the water suspension containing arabic gum.

13. Corrections have been made to Section 4 (Paragraph 1): “significant” should be replaced with “low”.

The corrected text:

The calculated kinetic parameters confirmed a low affinity of immobilized AA-ANL to the substrate.

The authors state that the scientific conclusions are unaffected. This correction was approved by the Academic Editor. The original publication has also been updated.

Reference

1. Siódmiak, T.; Dulęba, J.; Kocot, N.; Wątrobska-Świetlikowska, D.; Marszał, M.P. The High 'Lipolytic Jump' of Immobilized Amano A Lipase from *Aspergillus niger* in Developed 'ESS Catalytic Triangles' Containing Natural Origin Substrates. *Catalysts* **2022**, *12*, 853. [[CrossRef](#)]

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