

# This is a book<sup>\*</sup>

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Abstract: This is a nice book. People love this book very much.

KEYWORDS AND PHRASES: AI, GPT, Deepseek.

## 1. Introduction

This book is very interesting about AI description.

## 2. Definition

This is a BOOK AI1.0 and AI2.0.

Book<sup>1</sup> and paper<sup>2</sup>.

## 3. Lemmas Theorems

- This is a AI1.0 book.
- This is a AI2.0 book.

$$x' + y^2 = z_i^2.$$

This is a AI1 book.

Example of a theorem:

**Theorem 3.1.** *It is interesting about AI problems.*

*Proof.* Obvious result. □

## 4. Proofs

and also in Table 2.

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<sup>\*</sup>Thanks Professor Yau's support.

<sup>†</sup>Thanks Professor Yu's support.

<sup>1</sup>This is a sample of book.

<sup>2</sup>This is a sample of paper

Table 1: The spherical case ( $I_1 = 0$ ,  $I_2 = 0$ )

Equil. Points	$x$	$y$	$z$	$C$	S
$L_1$	-2.485252241	0.000000000	0.017100631	8.230711648	U
$L_2$	0.000000000	0.000000000	3.068883732	0.000000000	S
$L_3$	0.009869059	0.000000000	4.756386544	-0.000057922	U
$L_4$	0.210589855	0.000000000	-0.007021459	9.440510897	U
$L_5$	0.455926604	0.000000000	-0.212446624	7.586126667	U
$L_6$	0.667031314	0.000000000	0.529879957	3.497660052	U
$L_7$	2.164386674	0.000000000	-0.169308438	6.866562449	U
$L_8$	0.560414471	0.421735658	-0.093667445	9.241525367	U
$L_9$	0.560414471	-0.421735658	-0.093667445	9.241525367	U
$L_{10}$	1.472523232	1.393484549	-0.083801333	6.733436505	U
$L_{11}$	1.472523232	-1.393484549	-0.083801333	6.733436505	U

Table 2: Parameter sets used by Bajpai and Reuß are not detailed sufficiently to permit a similar analysis

Parameter		Set 1	Set 2
$\mu_x$	[h <sup>-1</sup> ]	0.092	0.11
$K_x$	[g/g DM]	0.15	0.006
$\mu_p$	[g/g DM h]	0.005	0.004
$K_p$	[g/L]	0.0002	0.0001
$K_i$	[g/L]	0.1	0.1
$Y_{x/s}$	[g DM/g]	0.45	0.47
$Y_{p/s}$	[g/g]	0.9	1.2
$k_h$	[h <sup>-1</sup> ]	0.04	0.01
$m_s$	[g/g DM h]	0.014	0.029

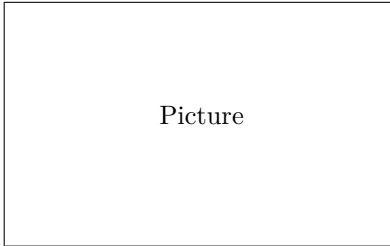


Figure 1: Pathway of the penicillin G biosynthesis.

5. Conclusion

This is a AI1.0 AI2.0.

5.1. This is a book AI3.0

This is a book AI3.0.  
Two equations:

(1)

$$C_s = K_M \frac{\mu/\mu_x}{1 - \mu/\mu_x}$$

and

(2)

$$G = \frac{P_{\text{opt}} - P_{\text{ref}}}{P_{\text{ref}}} \; 100 \; (\%).$$

Two equation arrays:

(3)

$$\frac{dS}{dt} = -\sigma X + s_F F$$

(4)

$$\frac{dX}{dt} = \mu X$$

(5)

$$\frac{dP}{dt} = \pi X - k_h P$$

(6)

$$\frac{dV}{dt} = F$$

and

(7)

$$\mu_{\text{substr}} = \mu_x \frac{C_s}{K_x C_x + C_s}$$

(8)

$$\mu = \mu_{\text{substr}} - Y_{x/s}(1 - H(C_s))(m_s + \pi/Y_{p/s})$$

(9)

$$\sigma = \mu_{\text{substr}}/Y_{x/s} + H(C_s)(m_s + \pi/Y_{p/s})$$

Long equation:

$$\begin{aligned} \sum_{u \in C^+} \left\lfloor \frac{w'(u)}{m} \right\rfloor &\leq \left\lfloor \sum_{u \in C^+} \frac{w'(u)}{m} \right\rfloor \\ &\leq \left\lfloor \frac{r(v) + \sum_{u \in C^+} w(u)}{m} \right\rfloor = \left\lfloor \frac{w(v) - \sum_{u \in C^-} w(u)}{m} \right\rfloor \end{aligned}$$

$$(10) \quad \leq \left\lfloor \frac{w(v)}{m} \right\rfloor - \sum_{u \in C^-} \left\lfloor \frac{w(u)}{m} \right\rfloor = s(v) + \sum_{u \in C^+} \left\lfloor \frac{w(u)}{m} \right\rfloor$$

and

$$(11) \quad \begin{aligned} \sum_{u \in C^-} \left\lfloor \frac{w(u)}{m} \right\rfloor &\leq \left\lfloor \sum_{u \in C^-} \frac{w(u)}{m} \right\rfloor \\ &\leq \left\lfloor \frac{r'(v) + \sum_{u \in C^-} w'(u)}{m} \right\rfloor = \left\lfloor \frac{w'(v) - \sum_{u \in C^+} w'(u)}{m} \right\rfloor \\ &\leq \left\lfloor \frac{w'(v)}{m} \right\rfloor - \sum_{u \in C^+} \left\lfloor \frac{w'(u)}{m} \right\rfloor = s'(v) + \sum_{u \in C^-} \left\lfloor \frac{w'(u)}{m} \right\rfloor. \end{aligned}$$

This time we have

$$\begin{aligned} f(S) - f(T) &= D_k^T(1 + C_{\geq k+1}^T)(1 + C) + C_k^T(1 + D_{\geq k+1}^T)(1 + D) \\ &\quad - C_k^T(1 + C_{\geq k+1}^T)(1 + C) - D_k^T(1 + D_{\geq k+1}^T)(1 + D) \\ &= (D_k^T - C_k^T)[(1 + C_{\geq k+1})(1 + C) - (1 + D_{\geq k+1}^T)(1 + D)] > 0. \end{aligned}$$

## Appendix A. Appendix section

An interesting books about AI.

### A.1. Appendix subsection

$P = (j_{k,1}, j_{k,2}, \dots, j_{k,m(k)}).$

Sample of cross-reference to the formula [A.1](#) in Appendix [A](#).

## Acknowledgements

An interesting books about AI.

## References

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