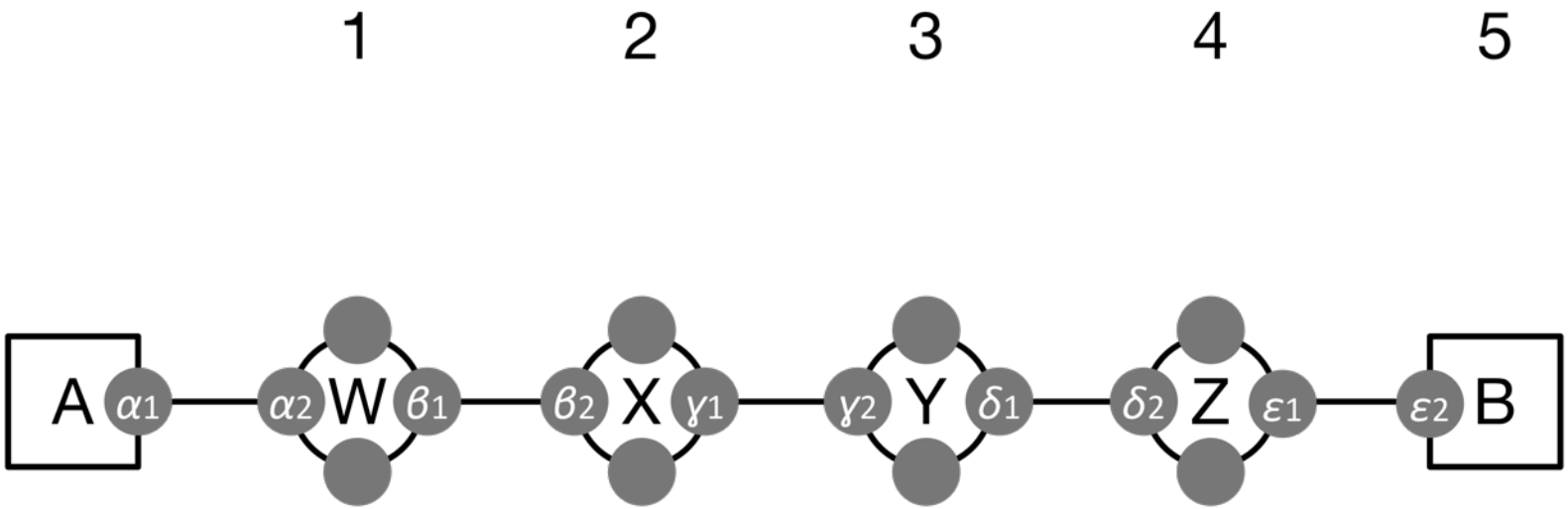
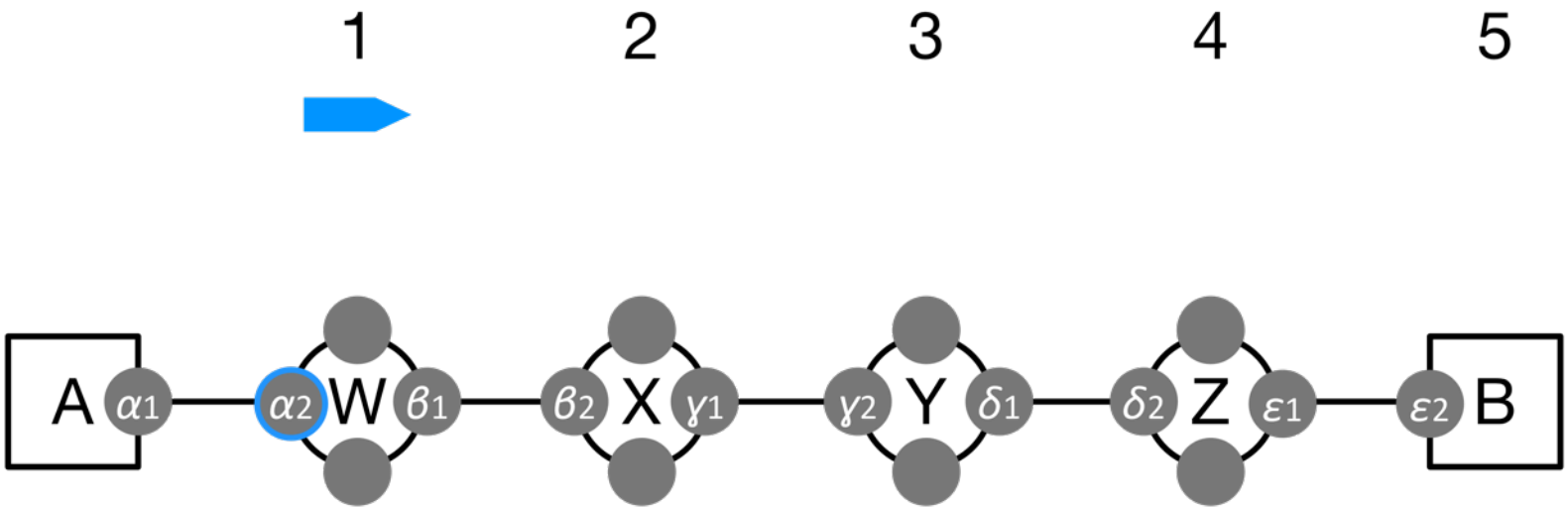
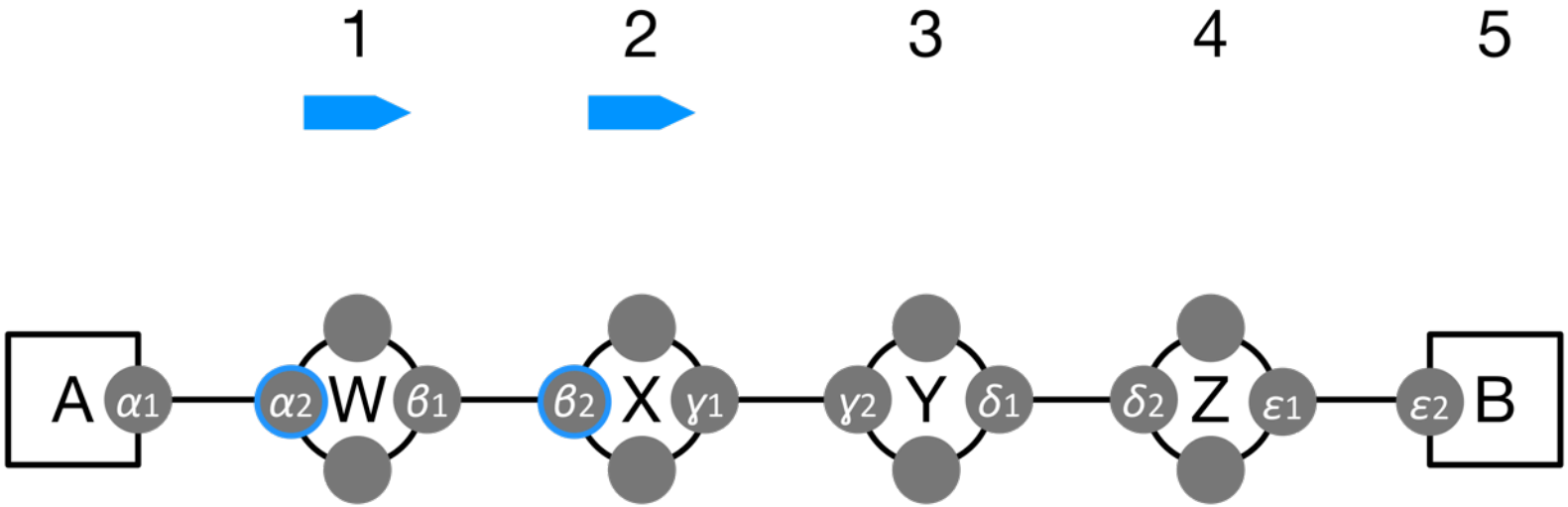
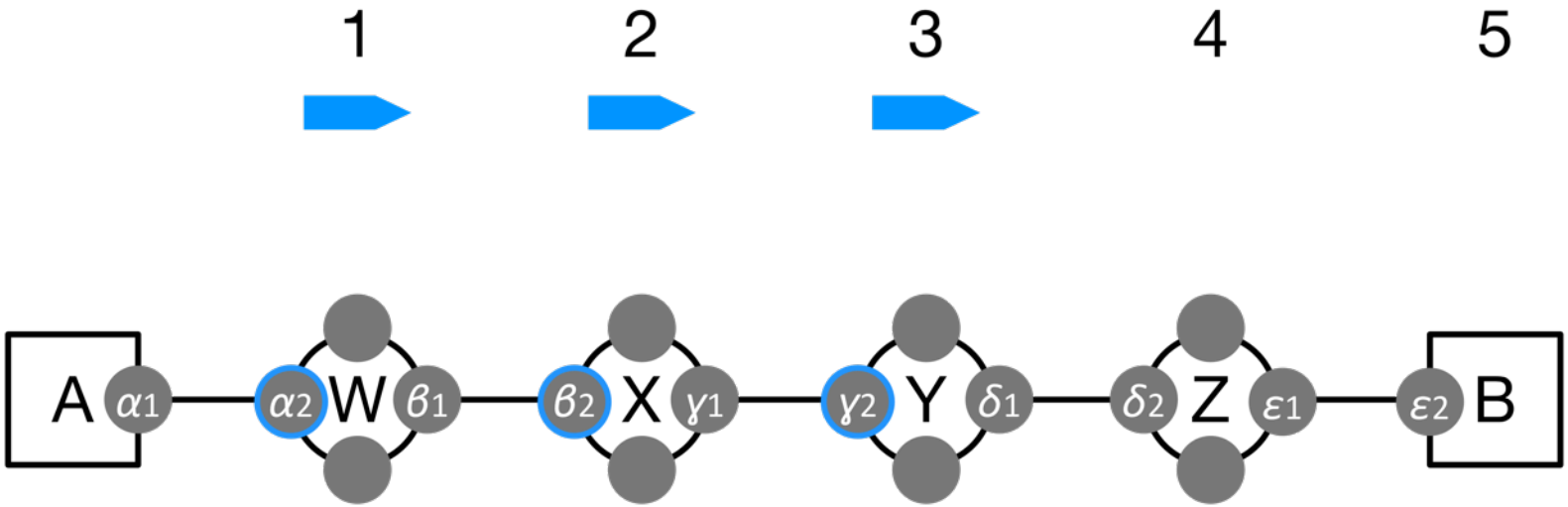
Week 2: Topology and routes

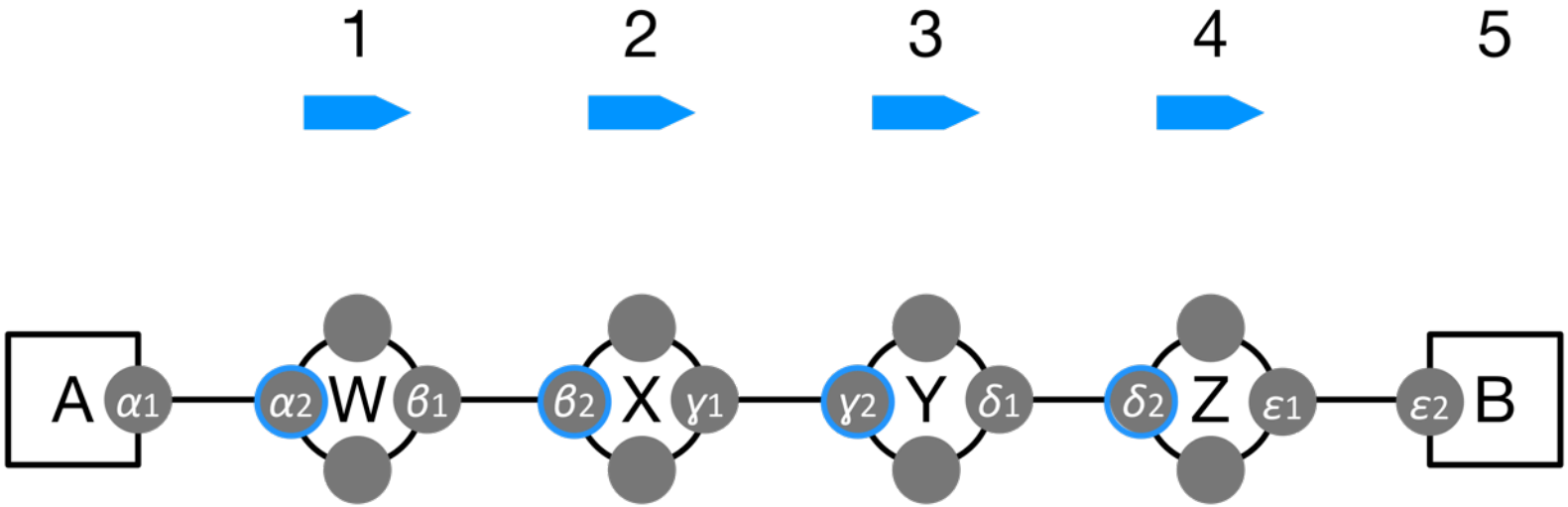
1. Introduction and questions
2. BGP updates
3. **Traceroutes**
   A. Basics
   B. **Limits**
   C. Load Balancing
   D. The tool
4. Conclusion

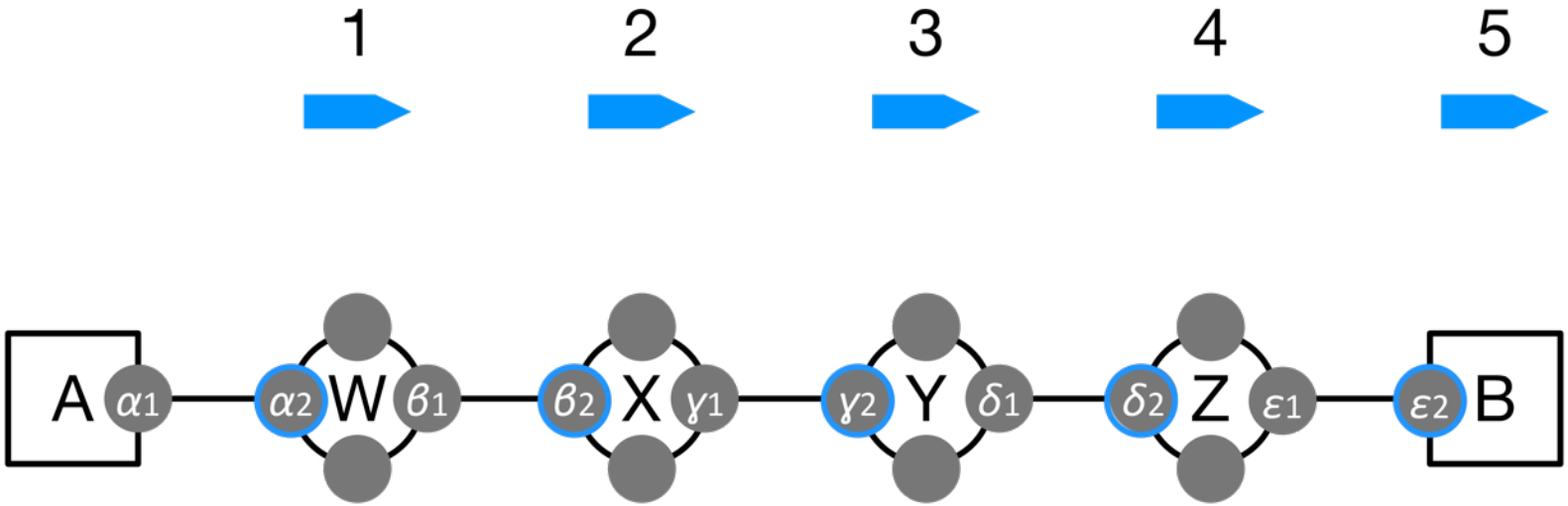

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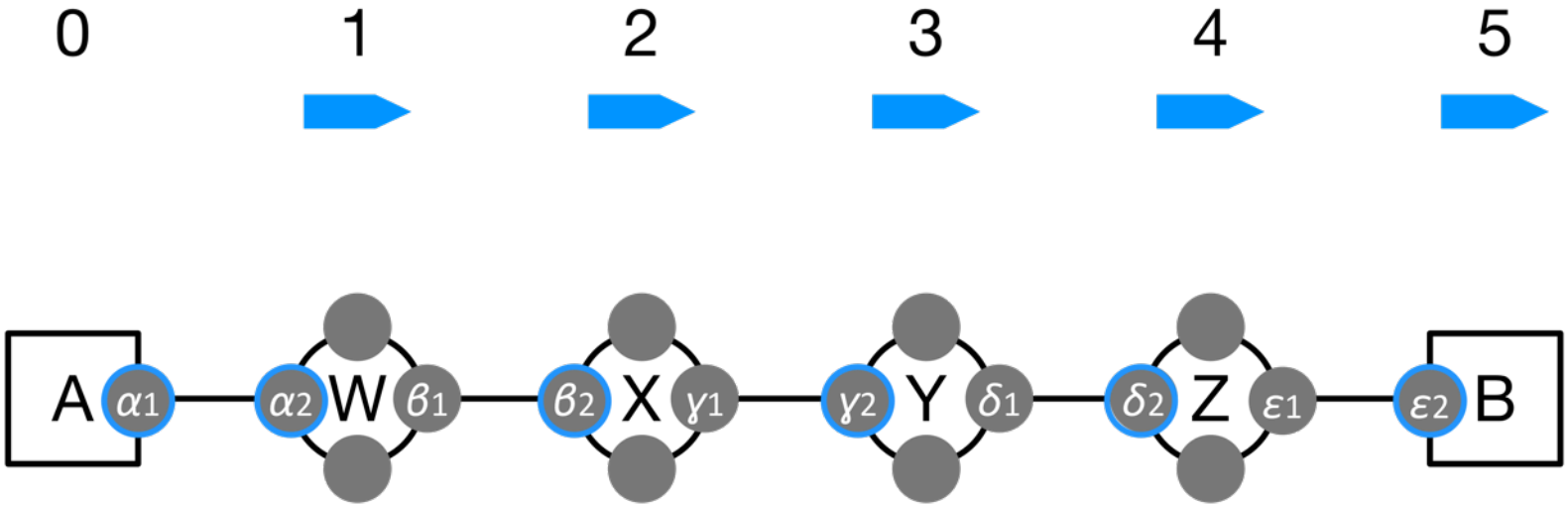

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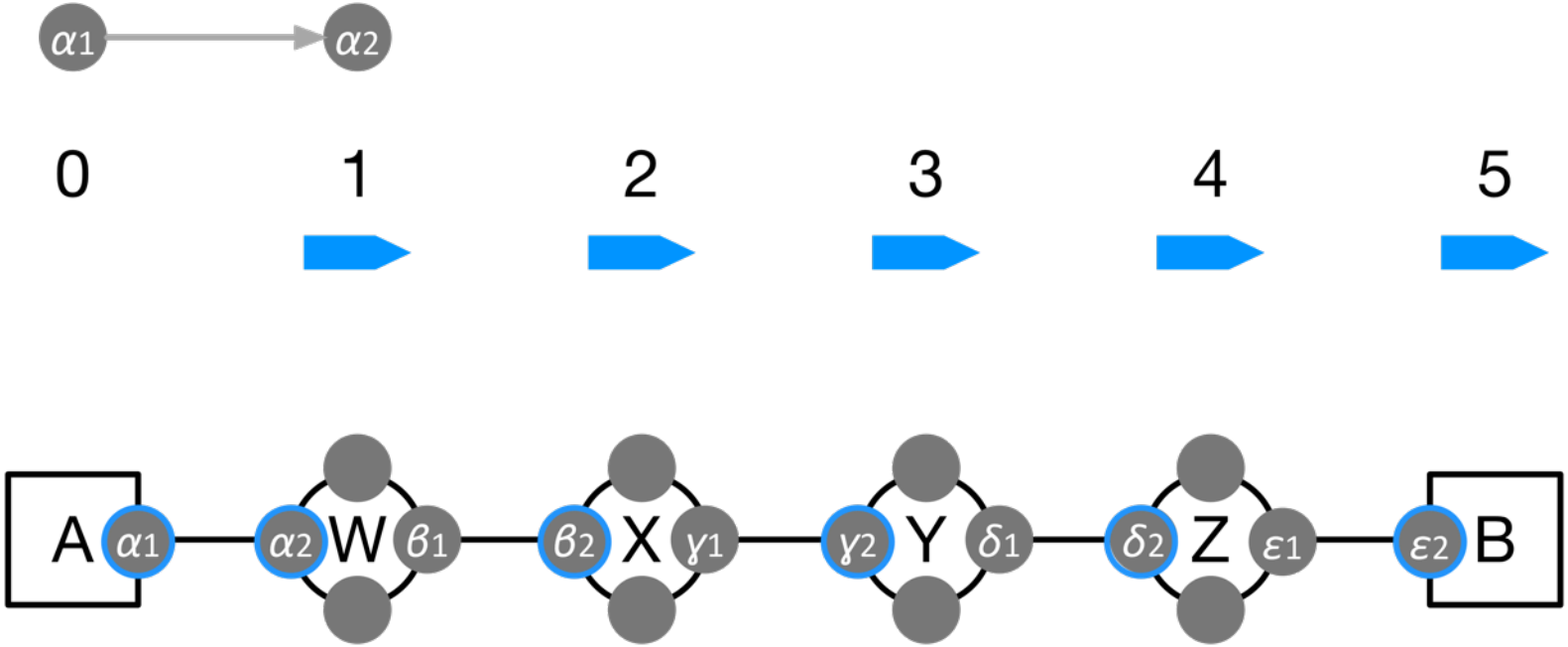

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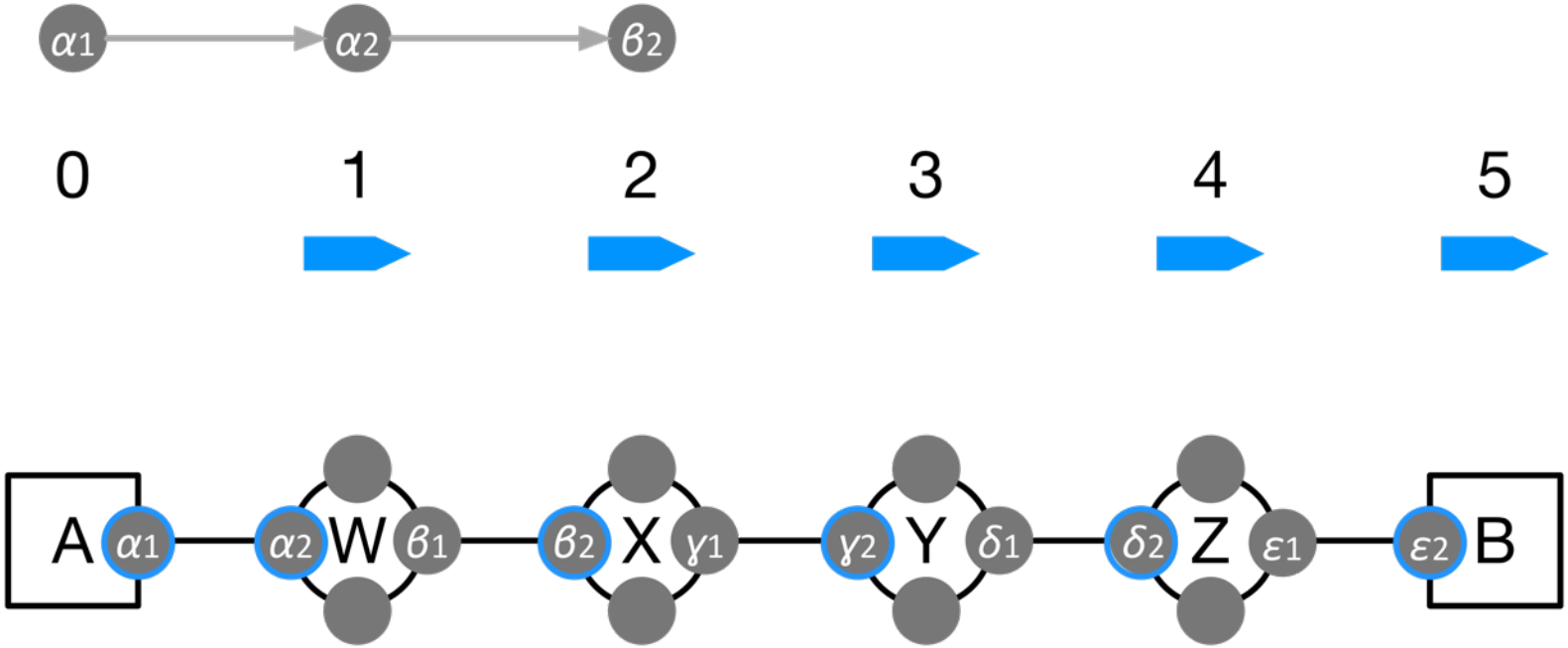

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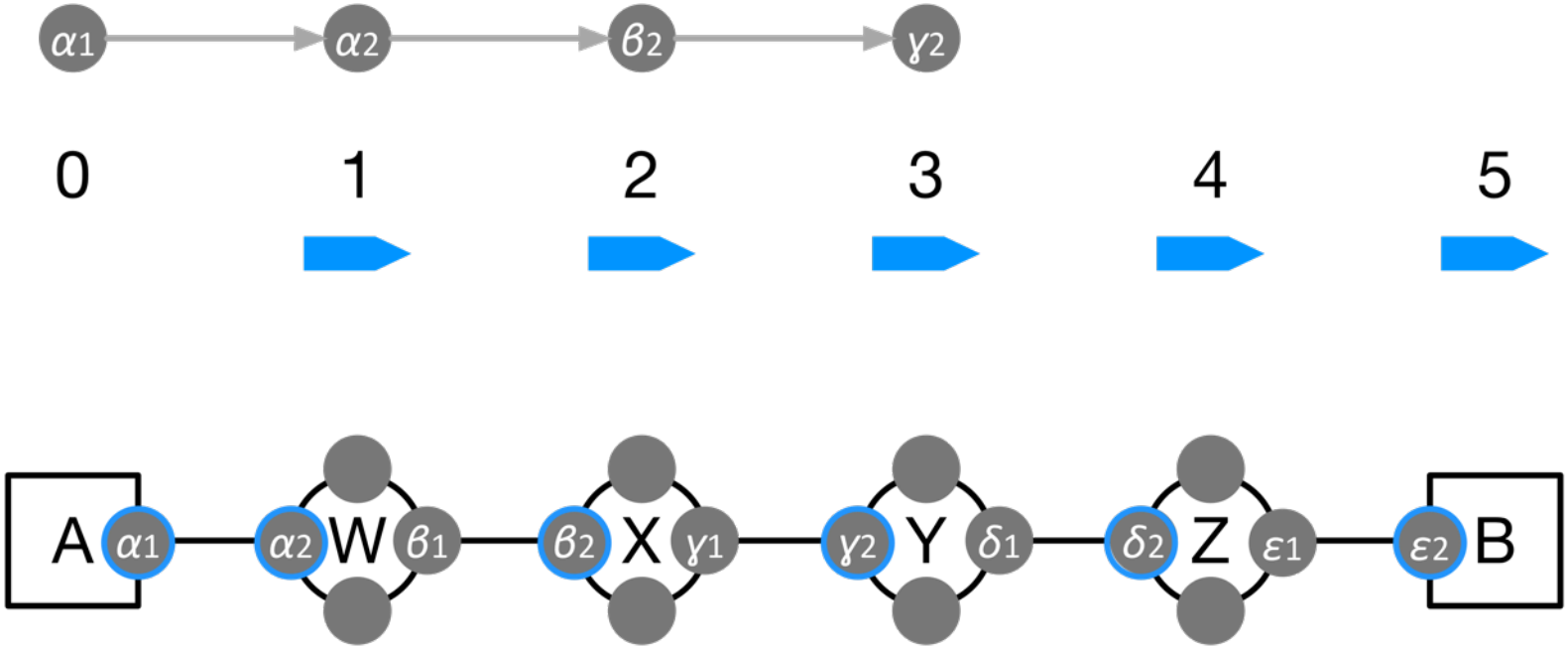

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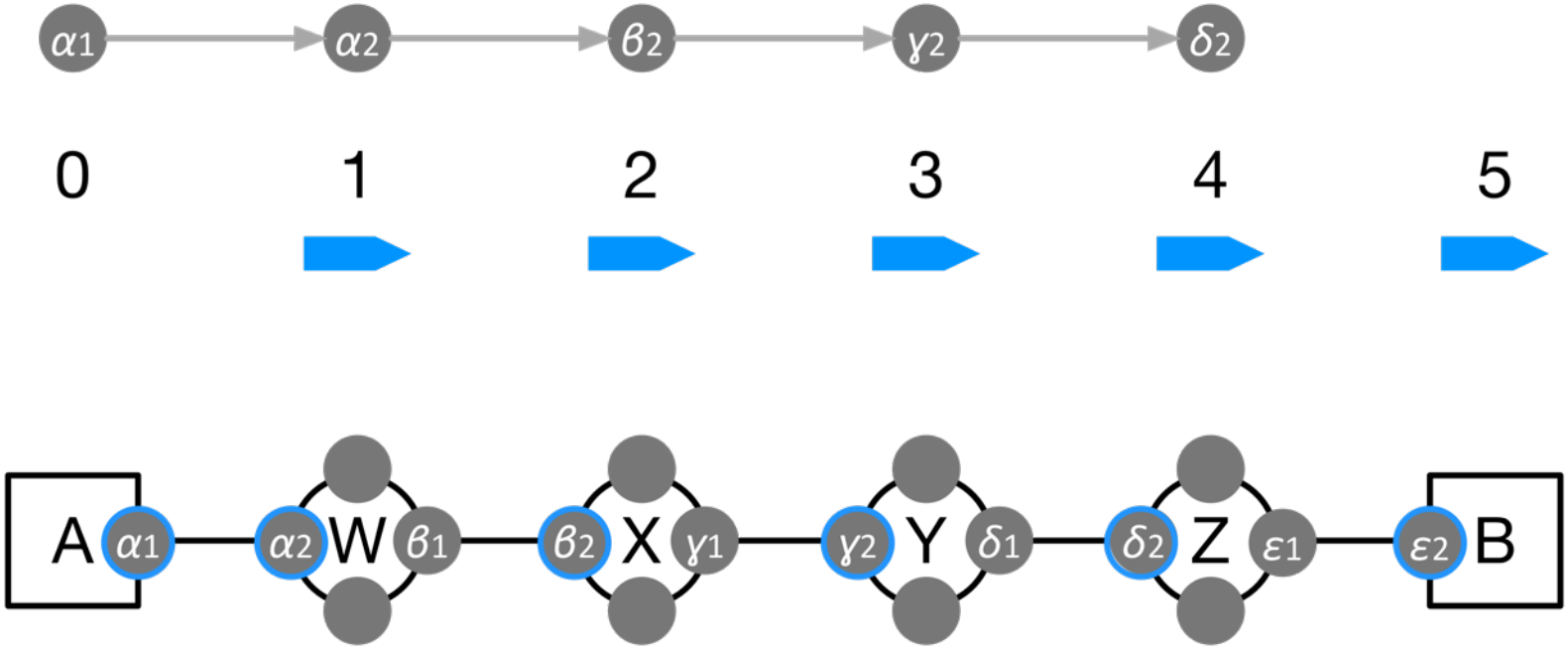

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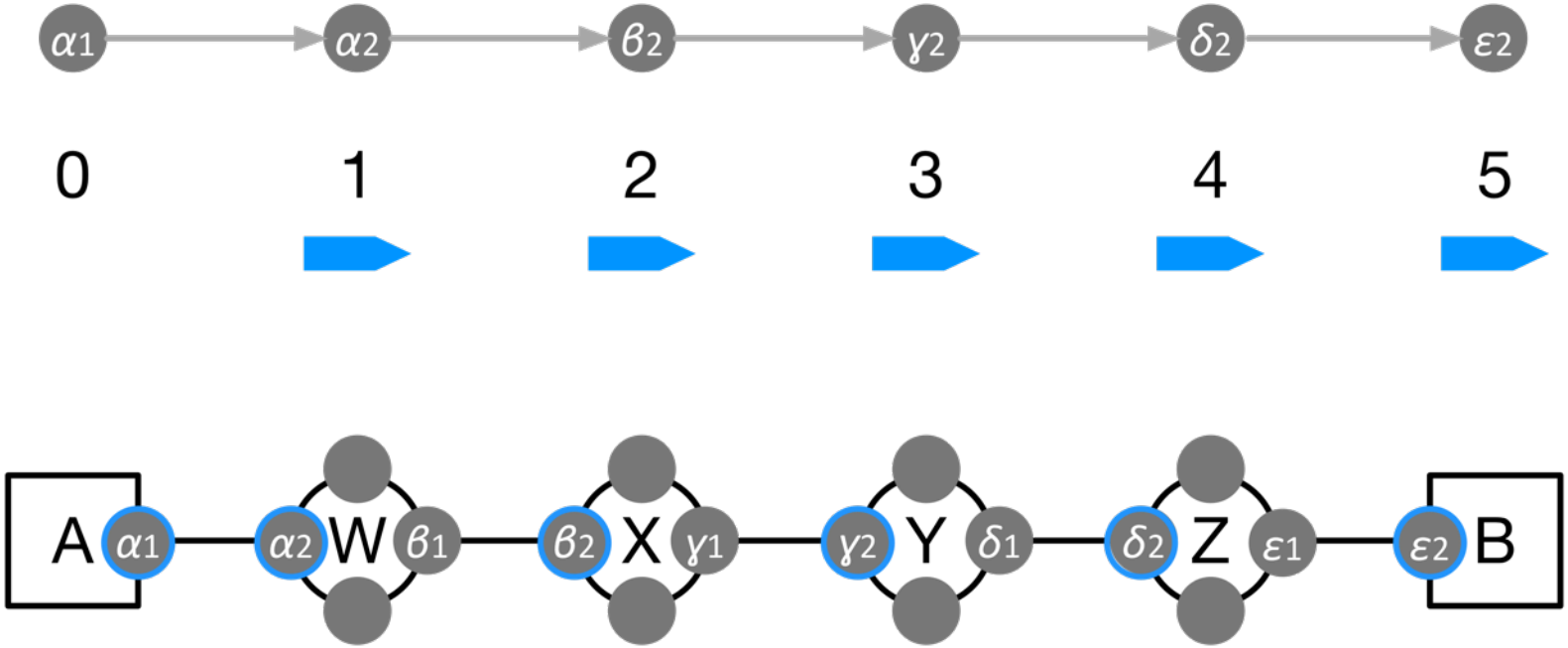

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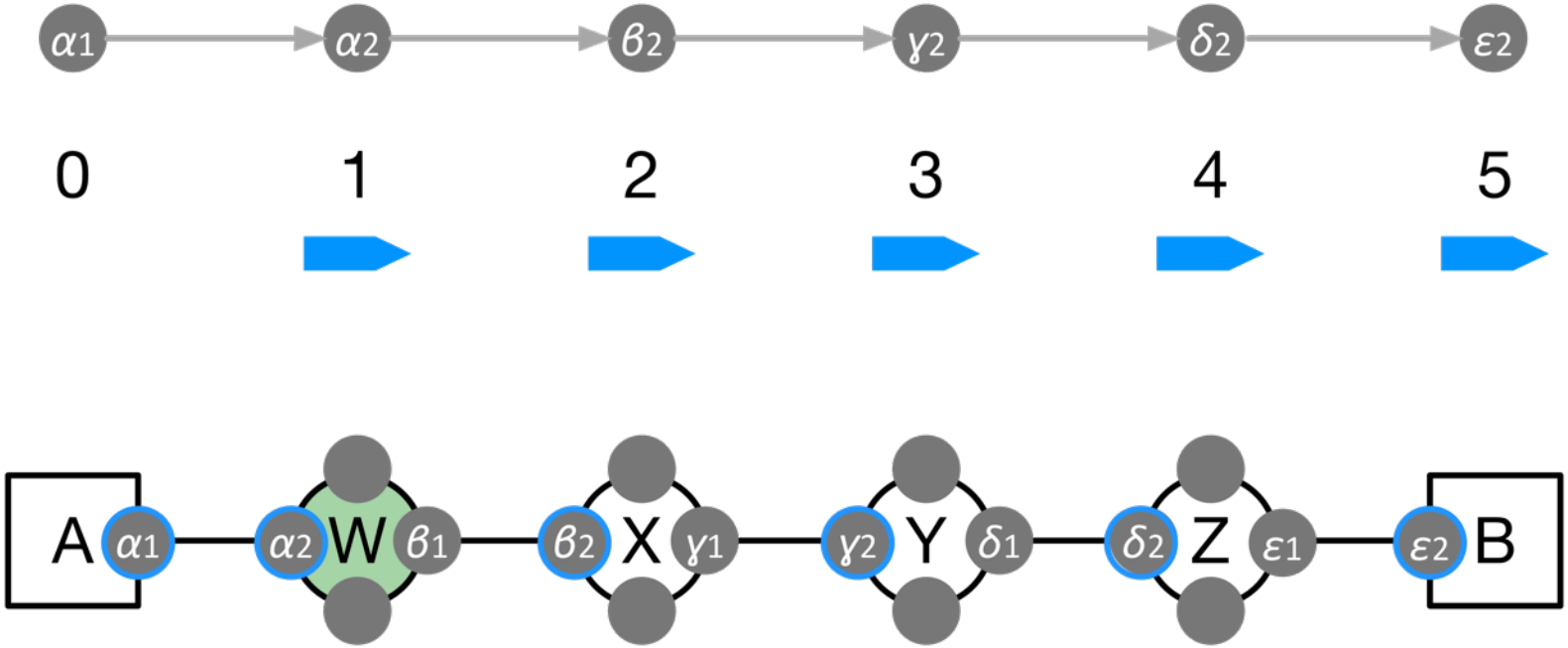

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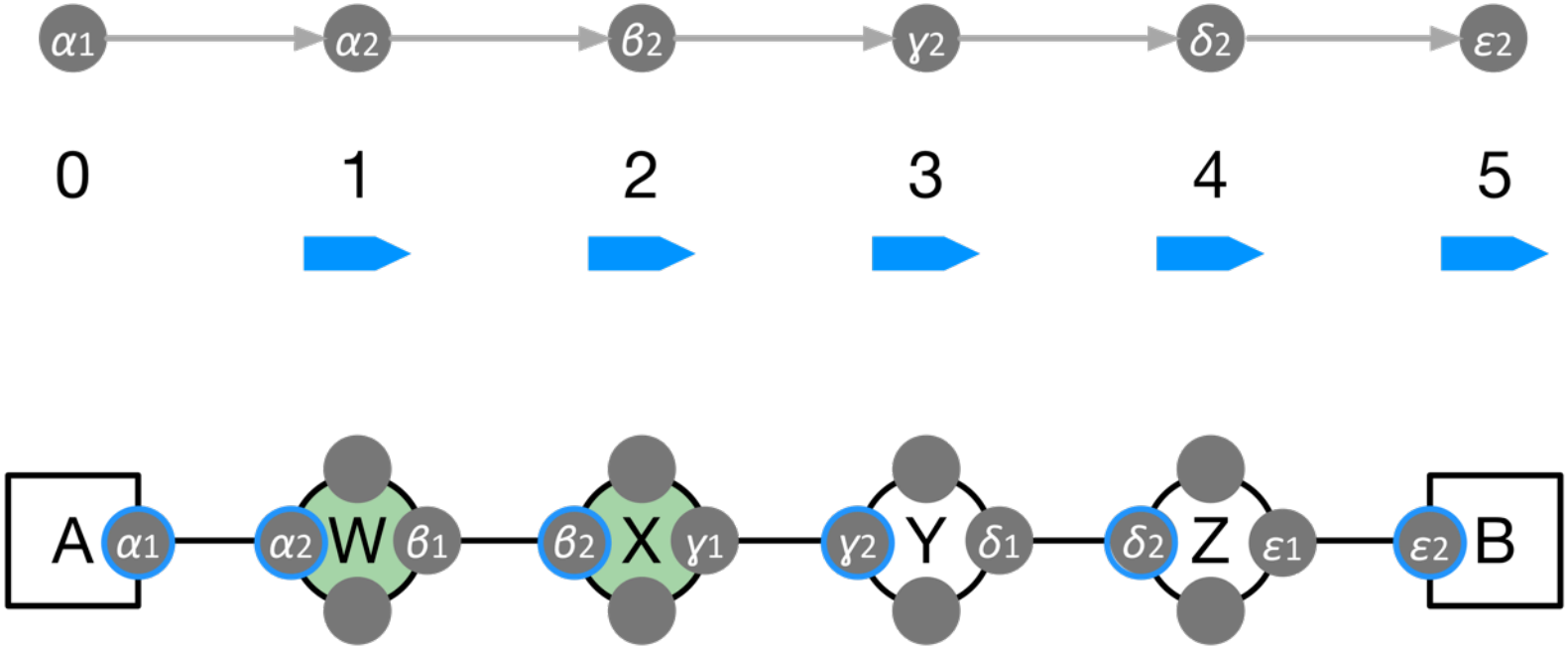

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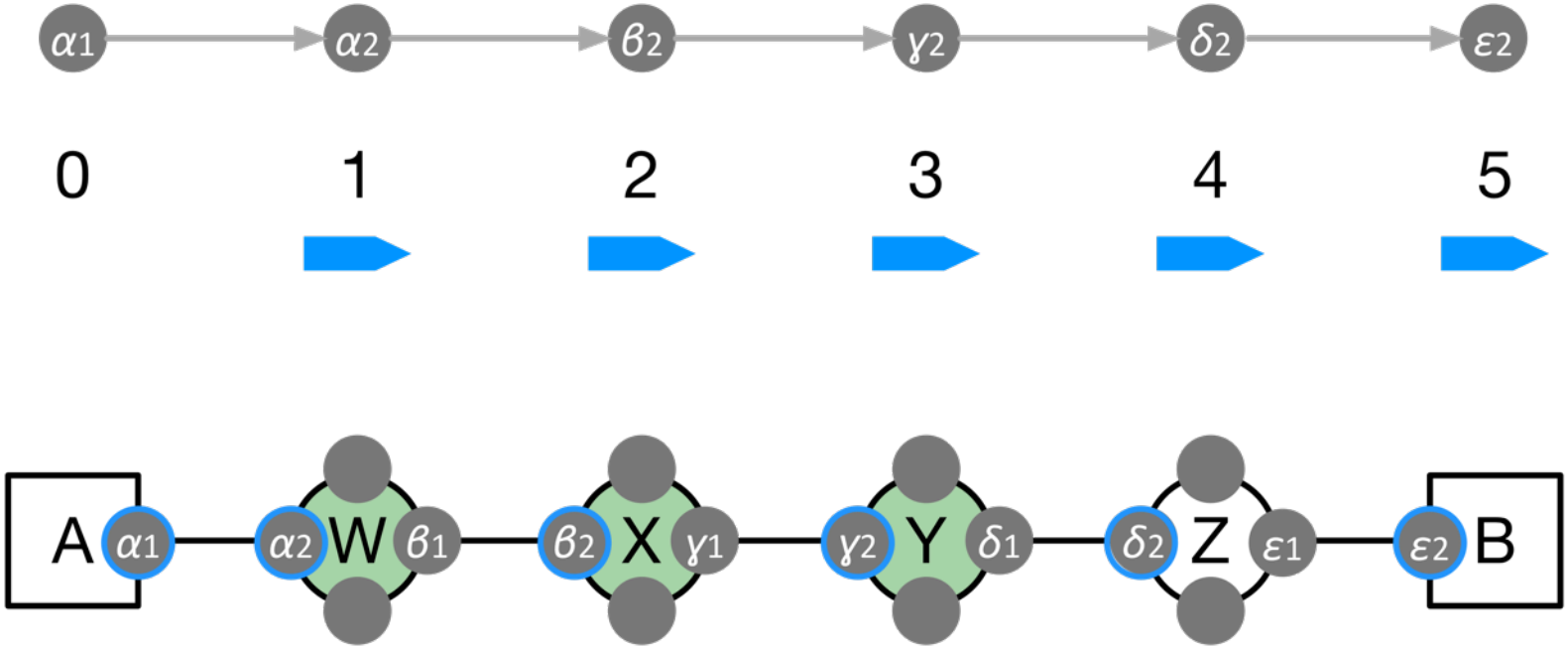

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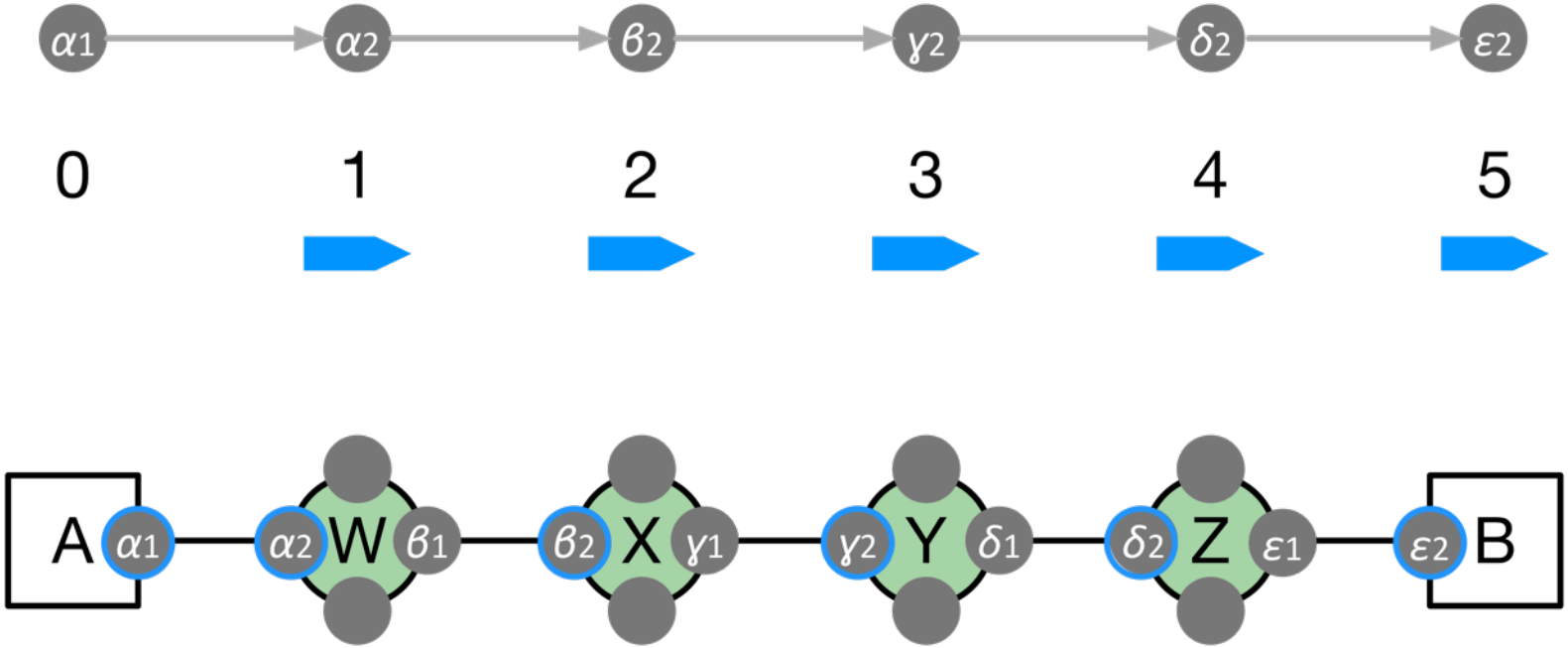

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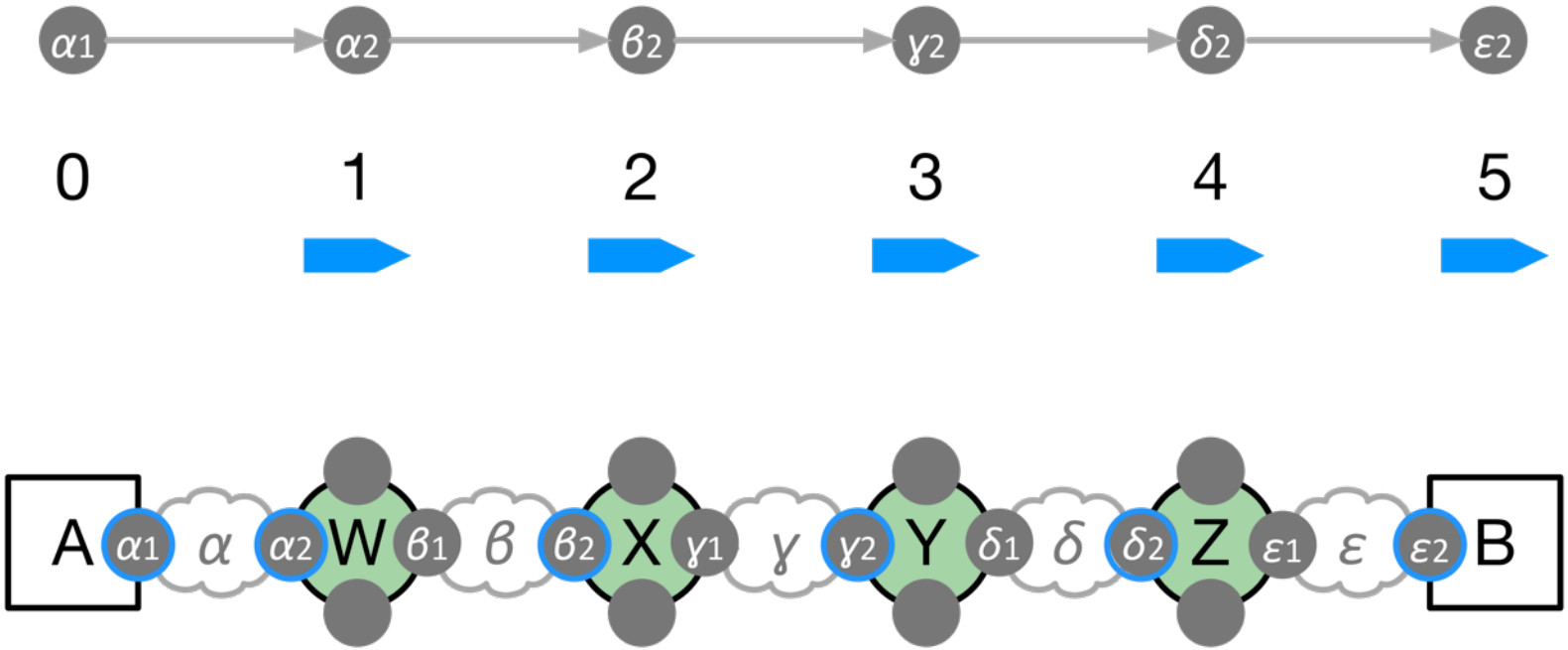

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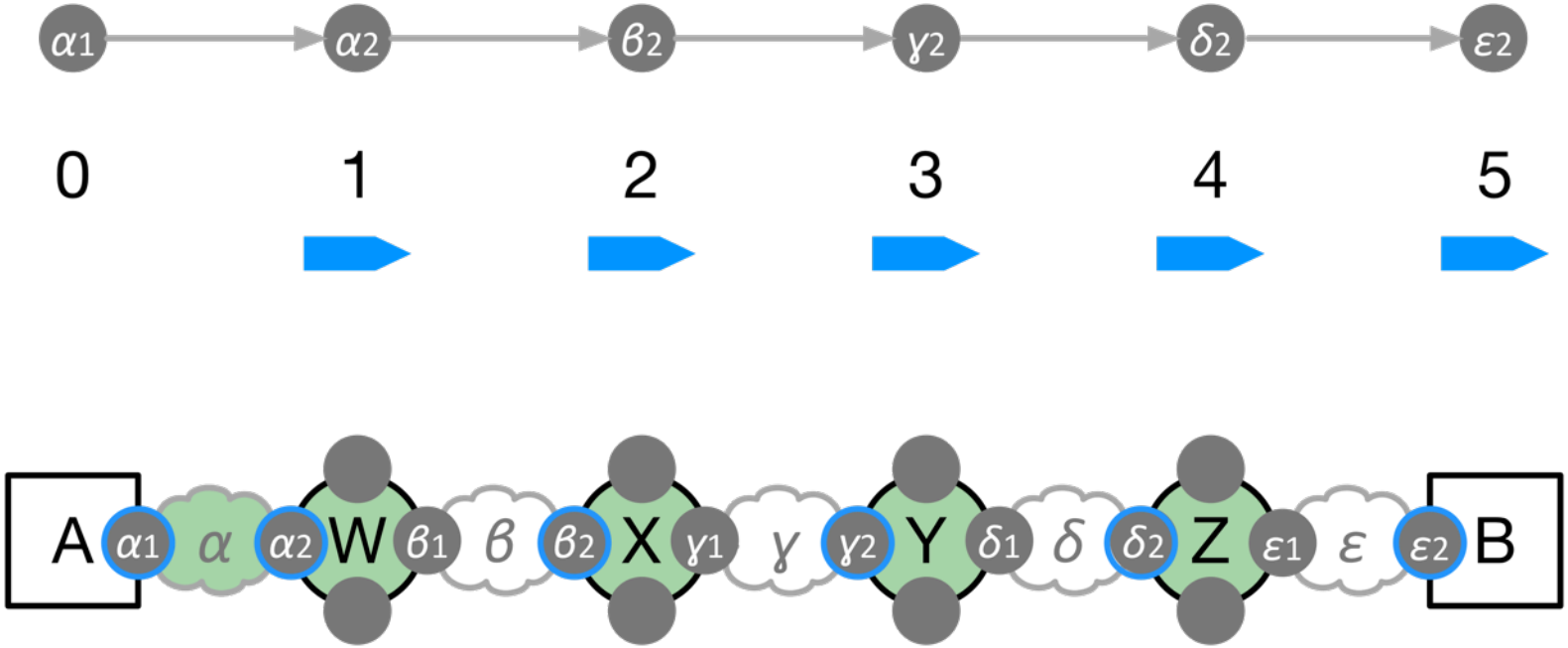

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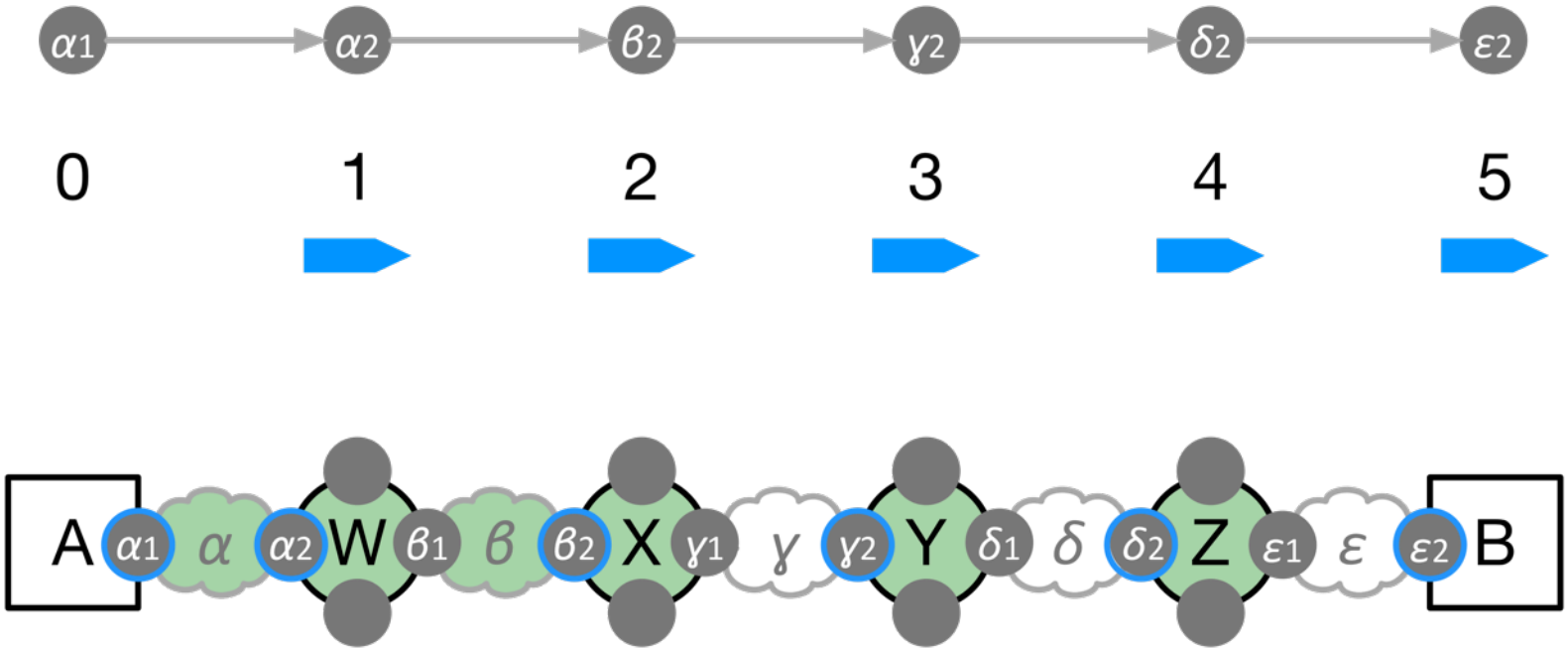

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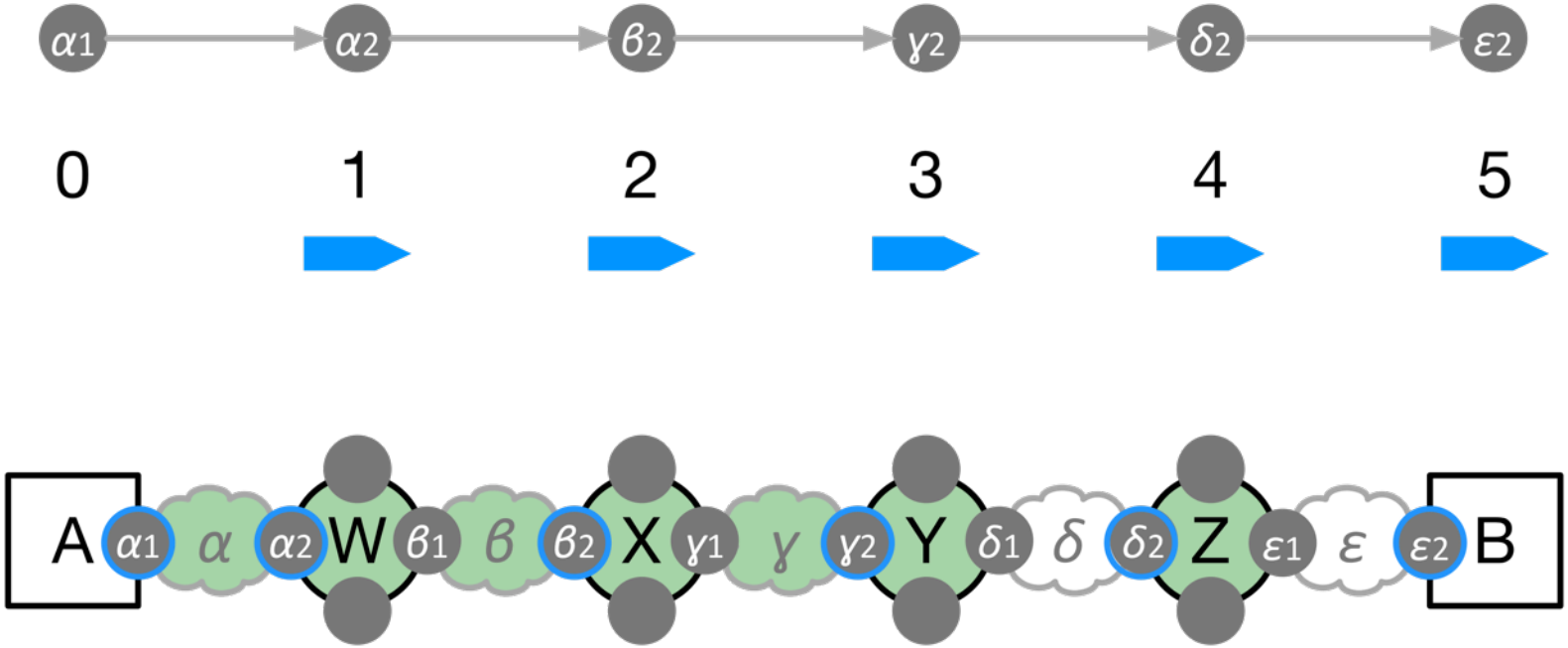

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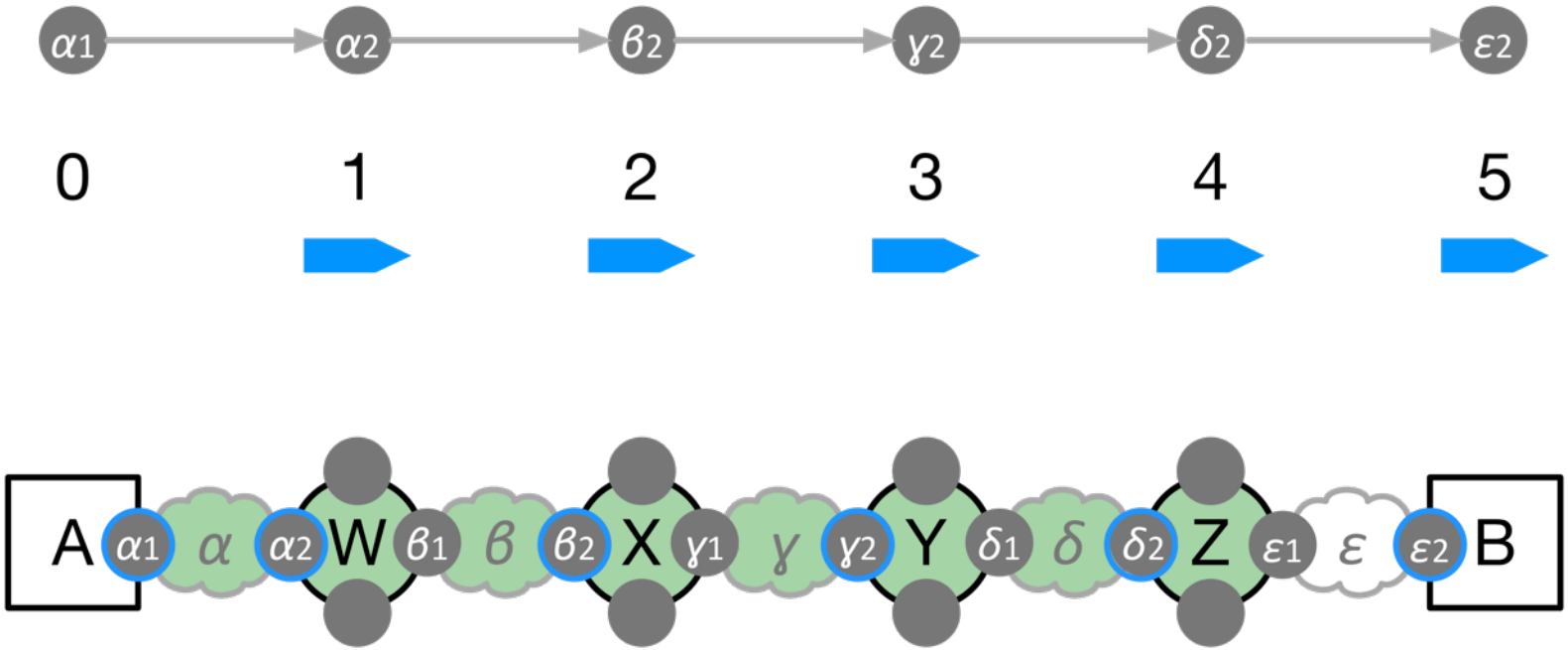

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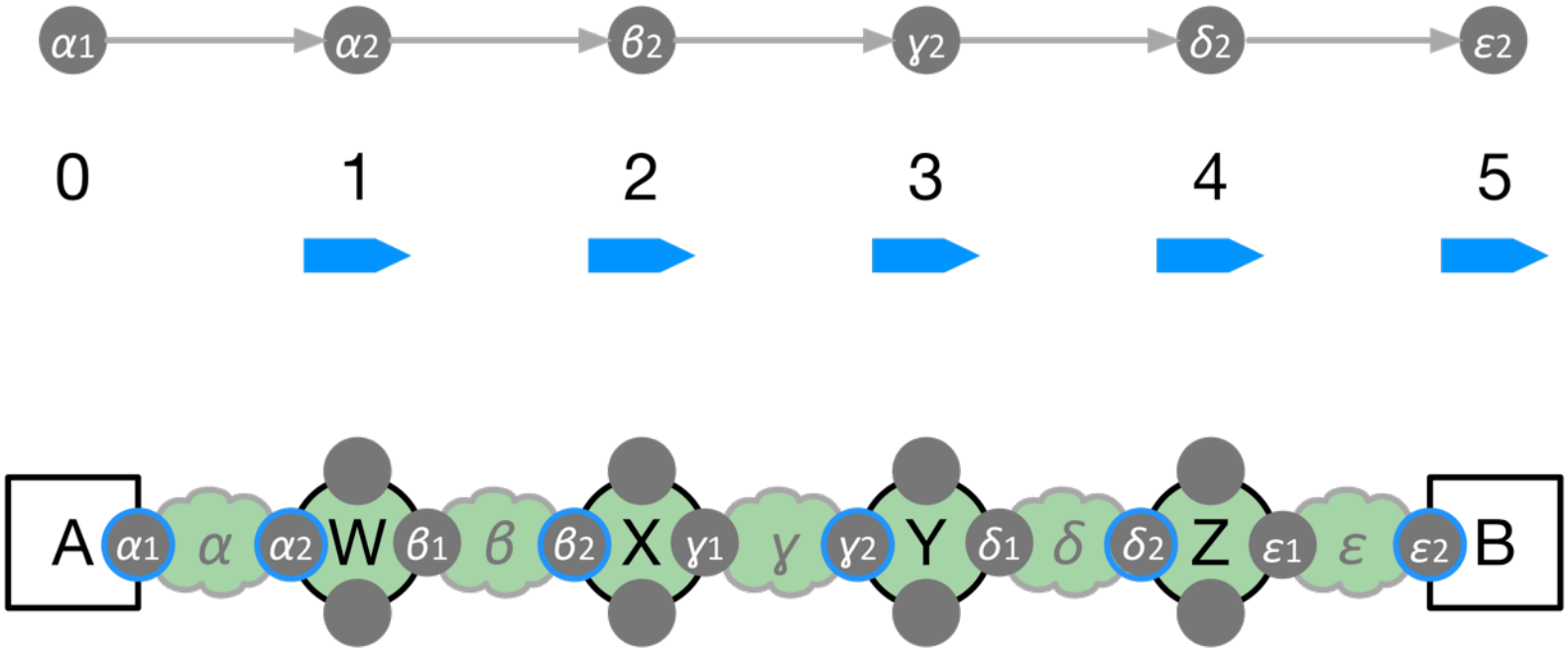

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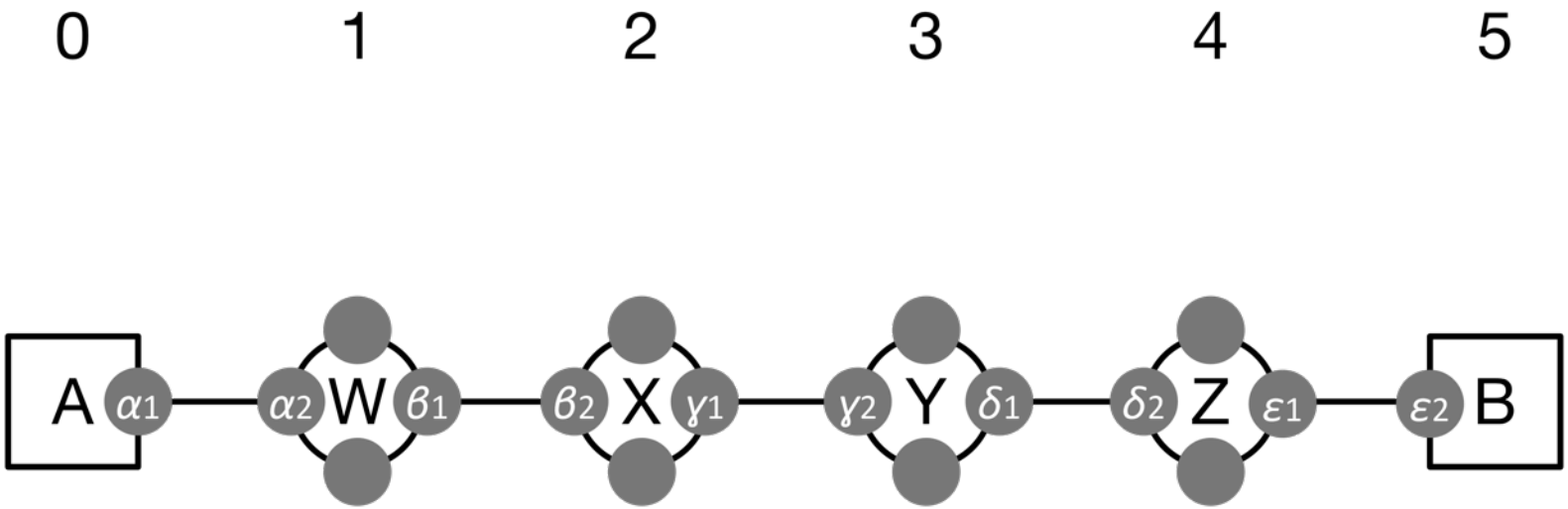

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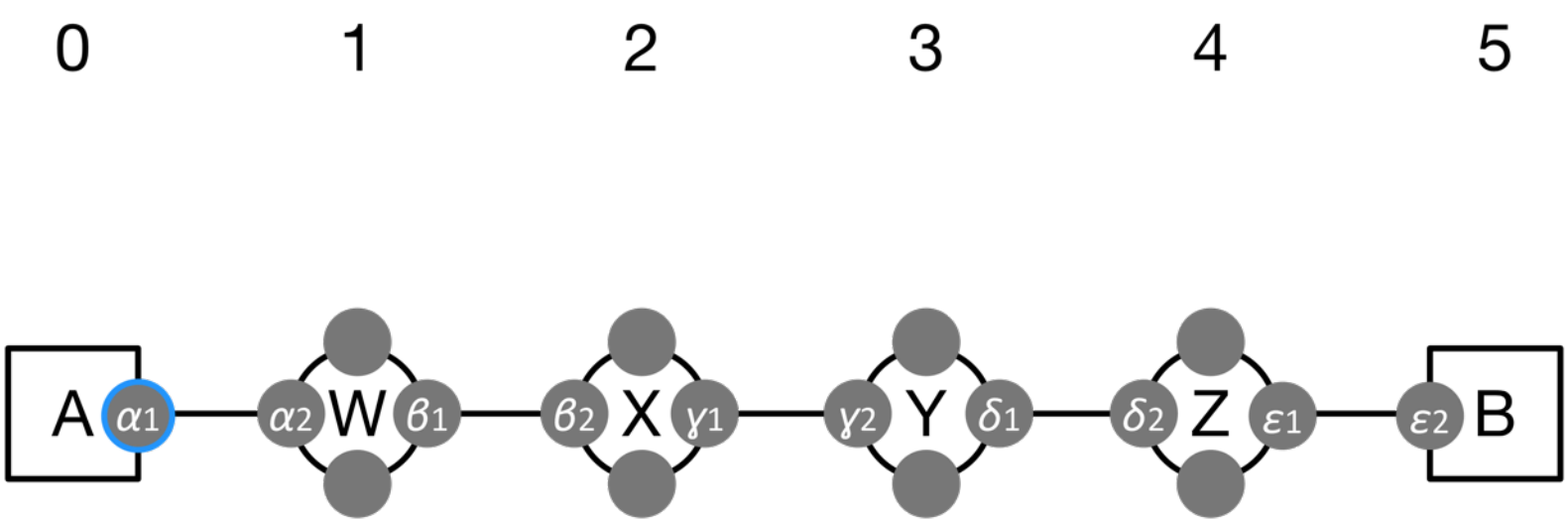

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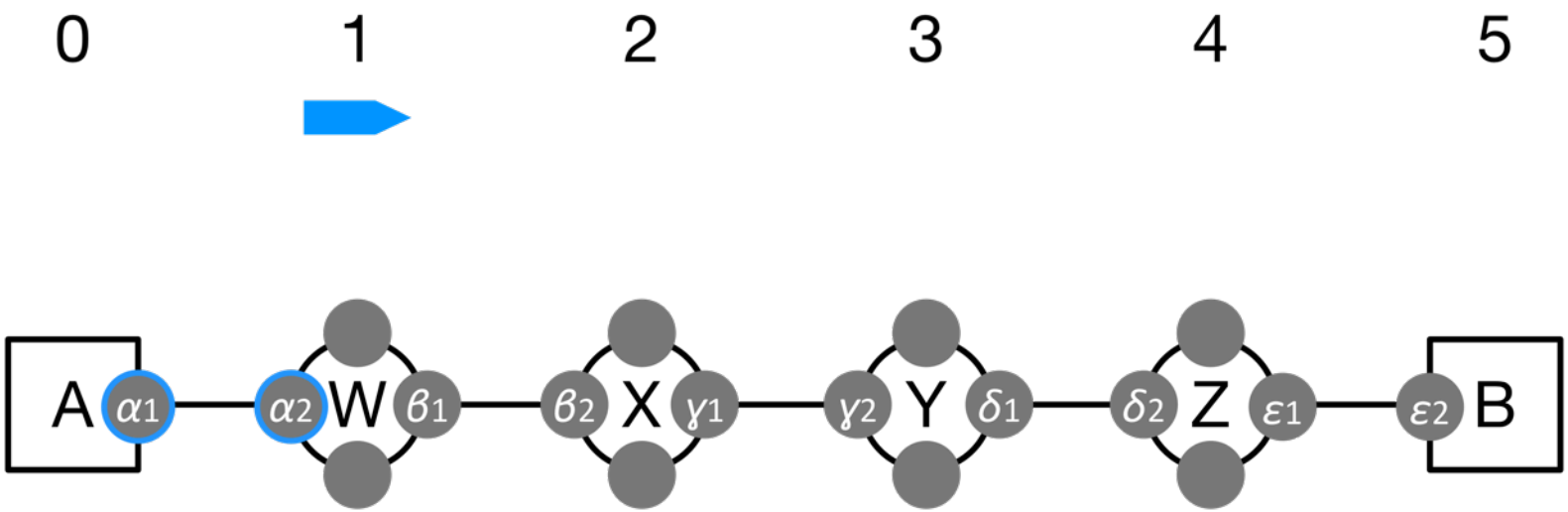

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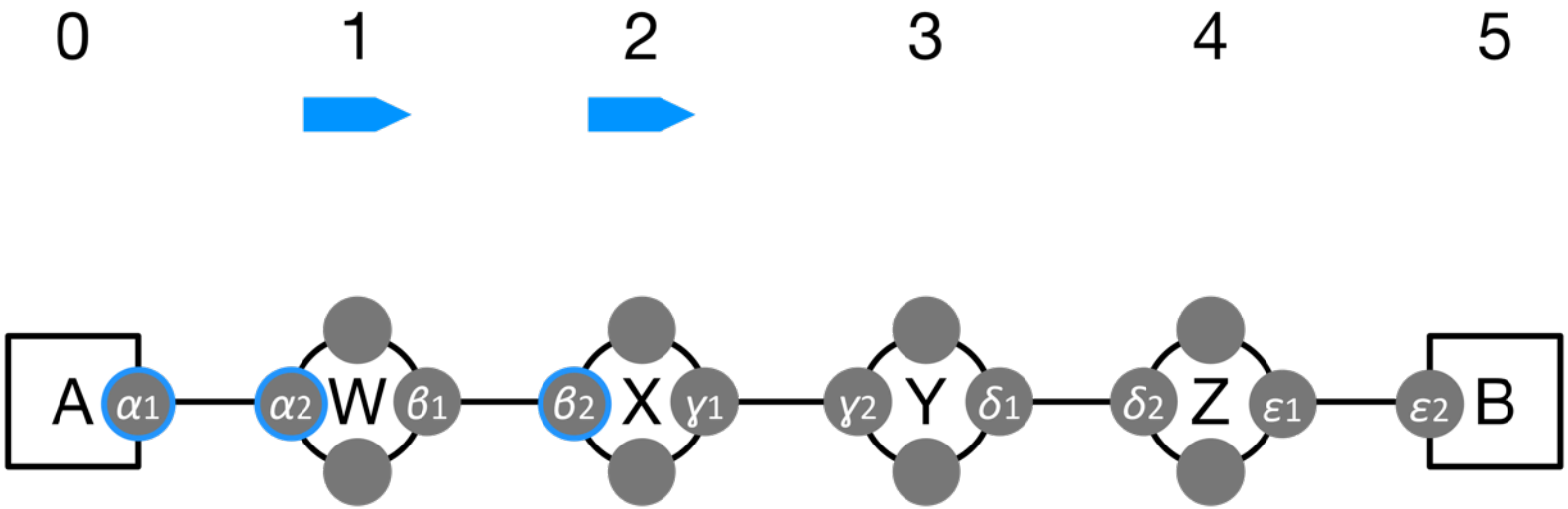

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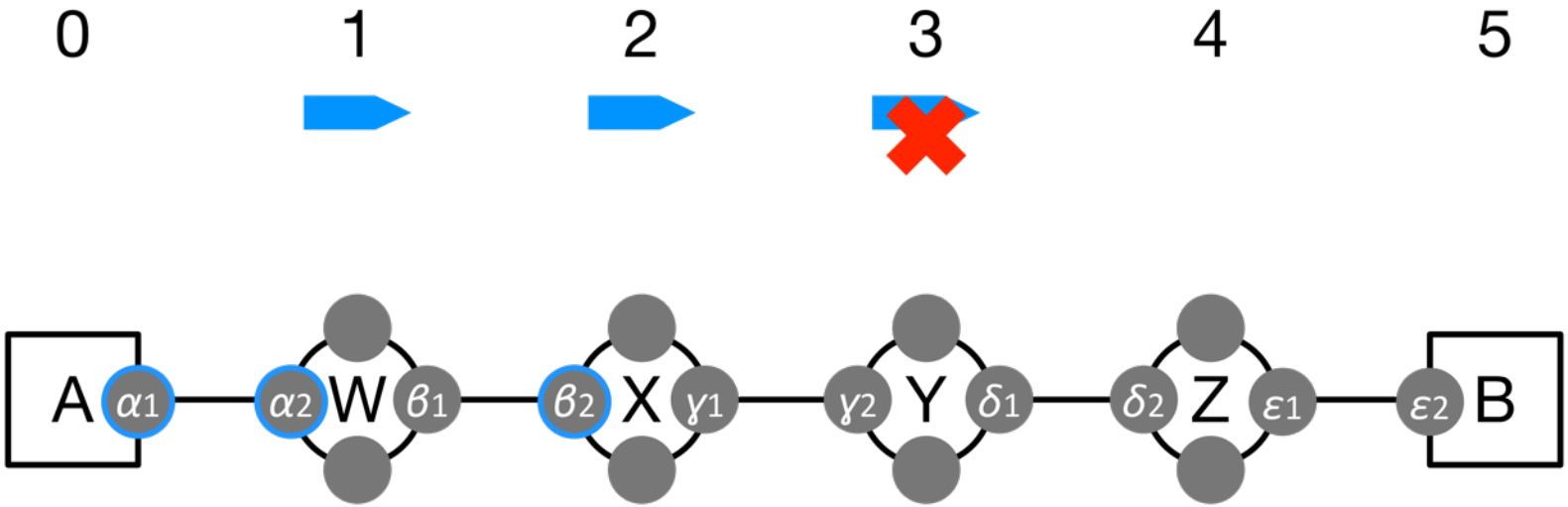

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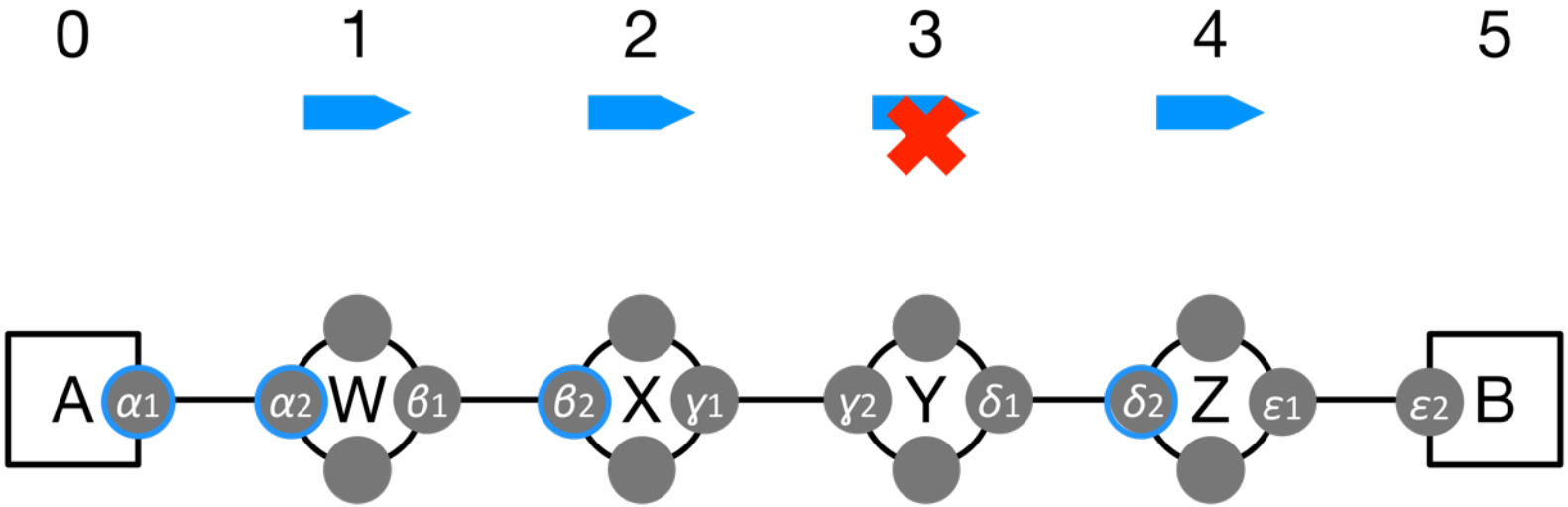

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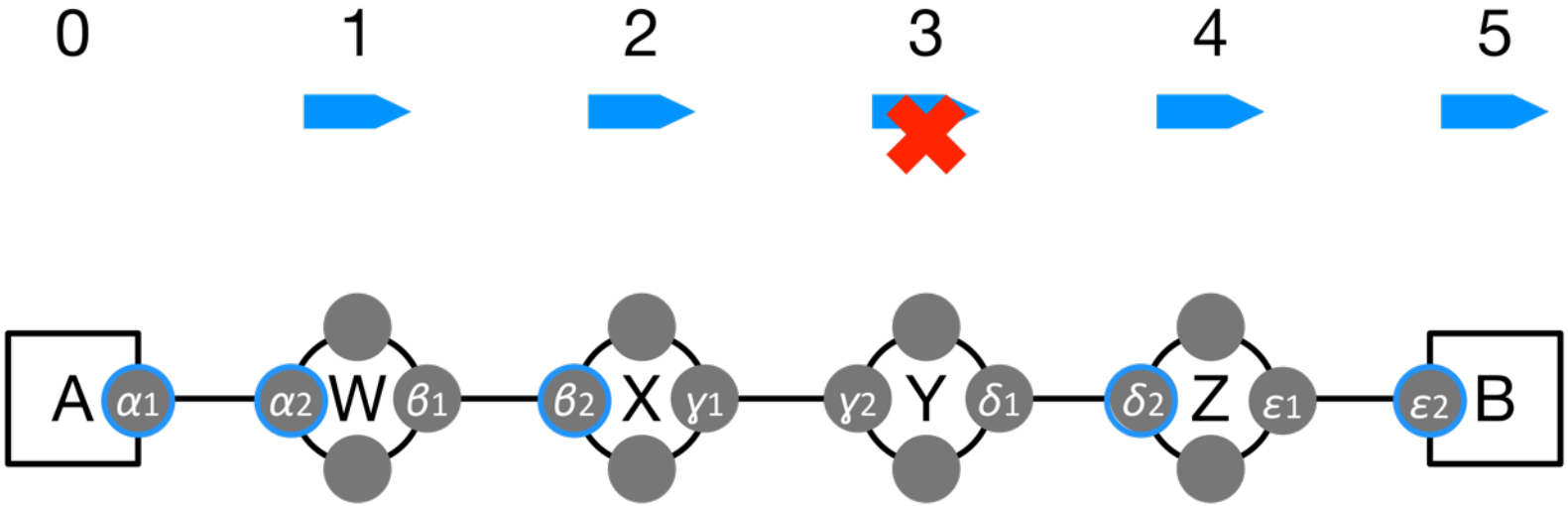

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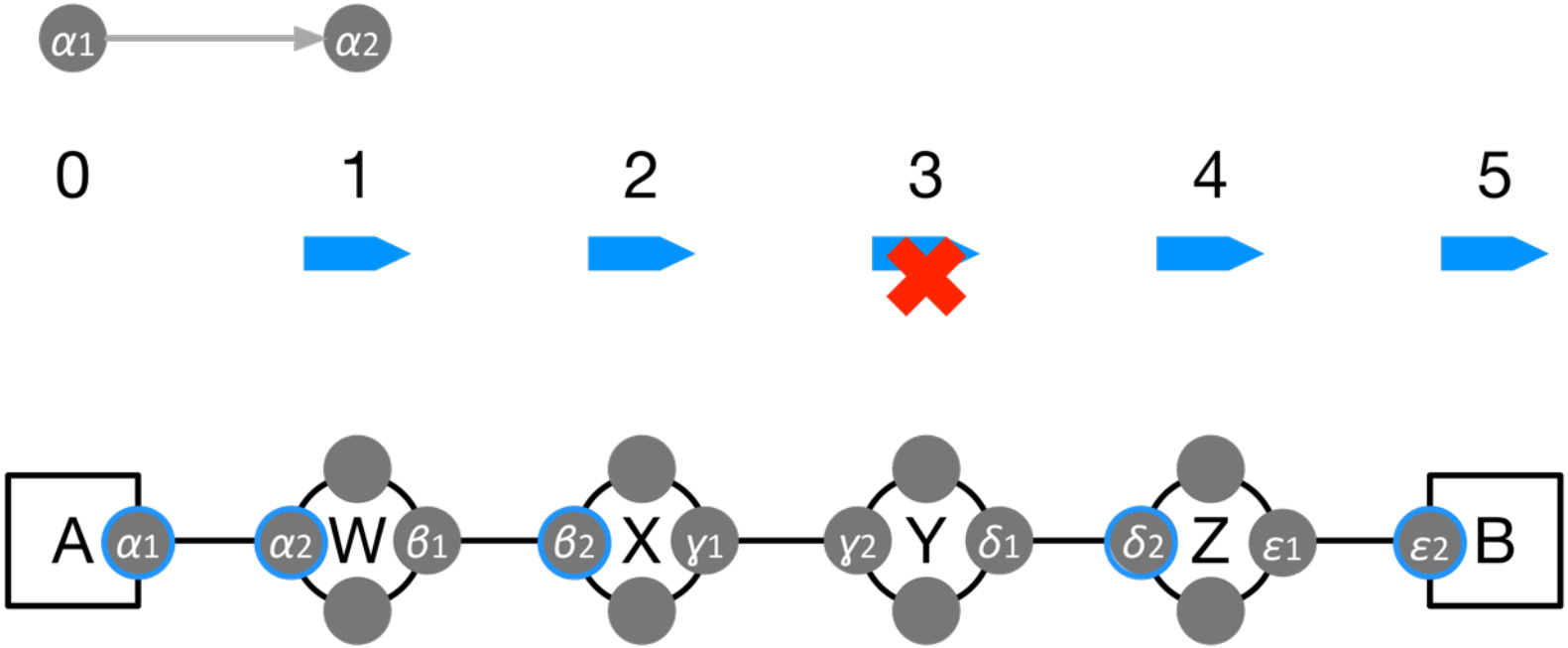

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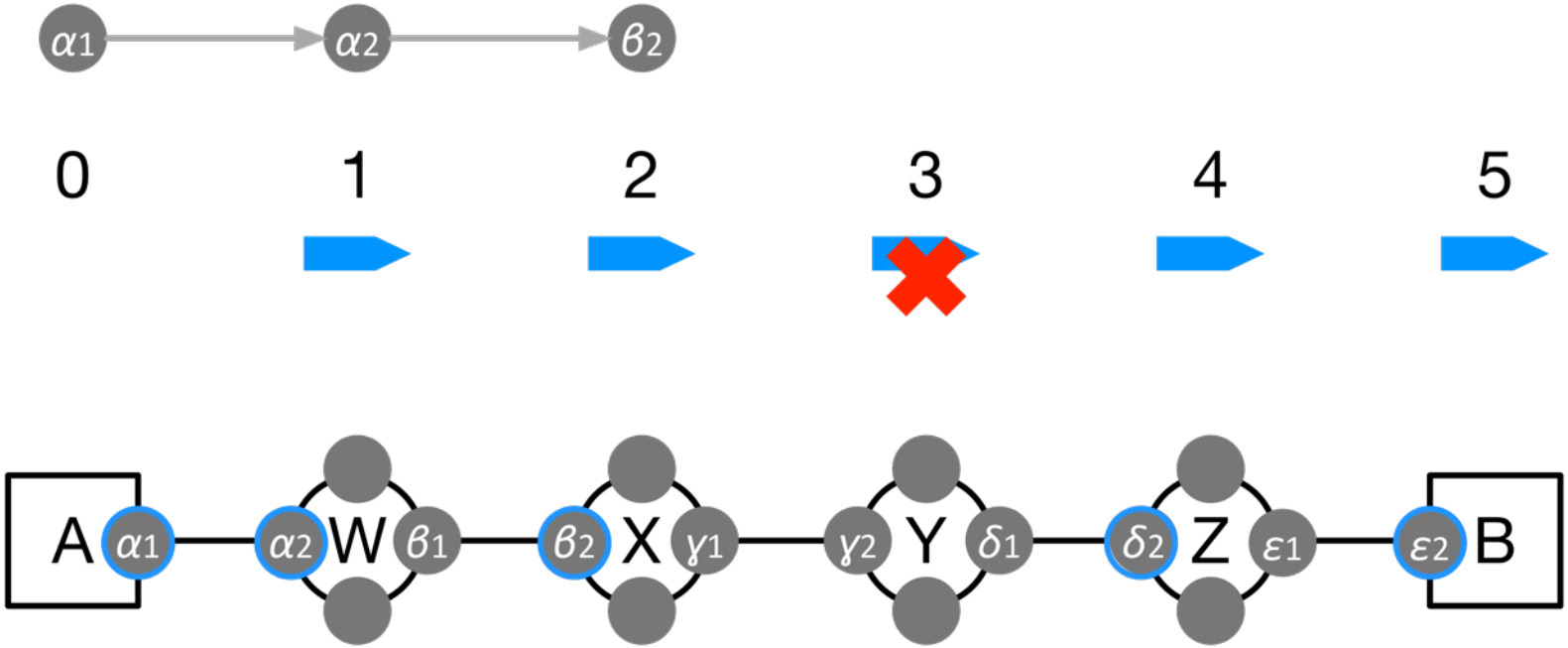

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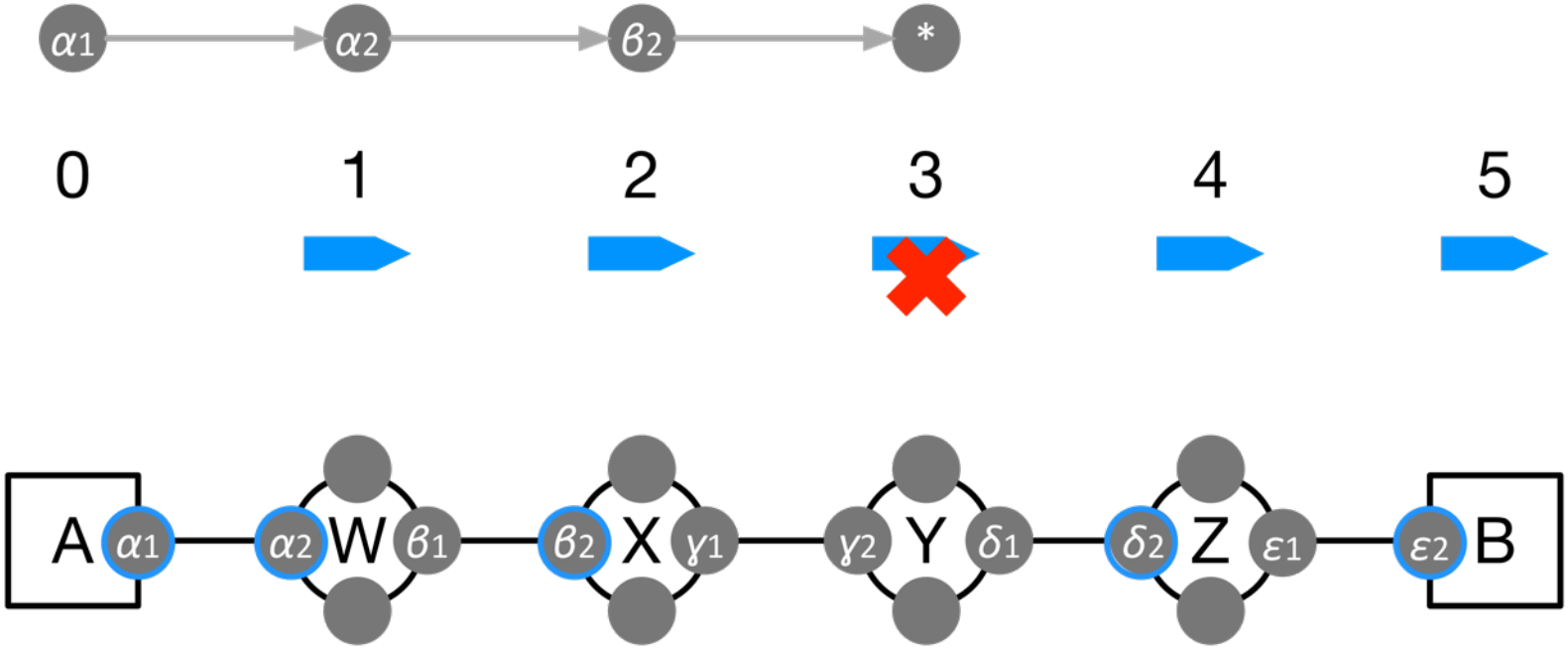

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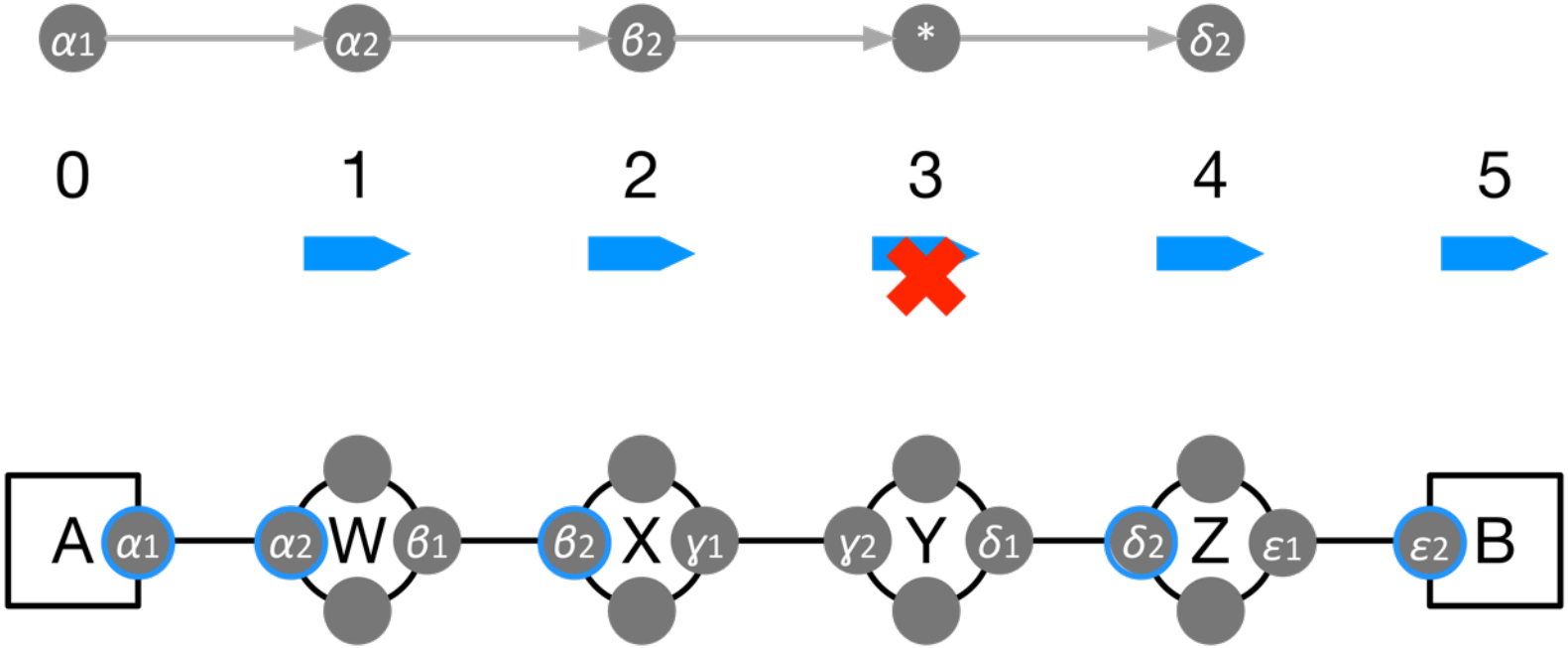

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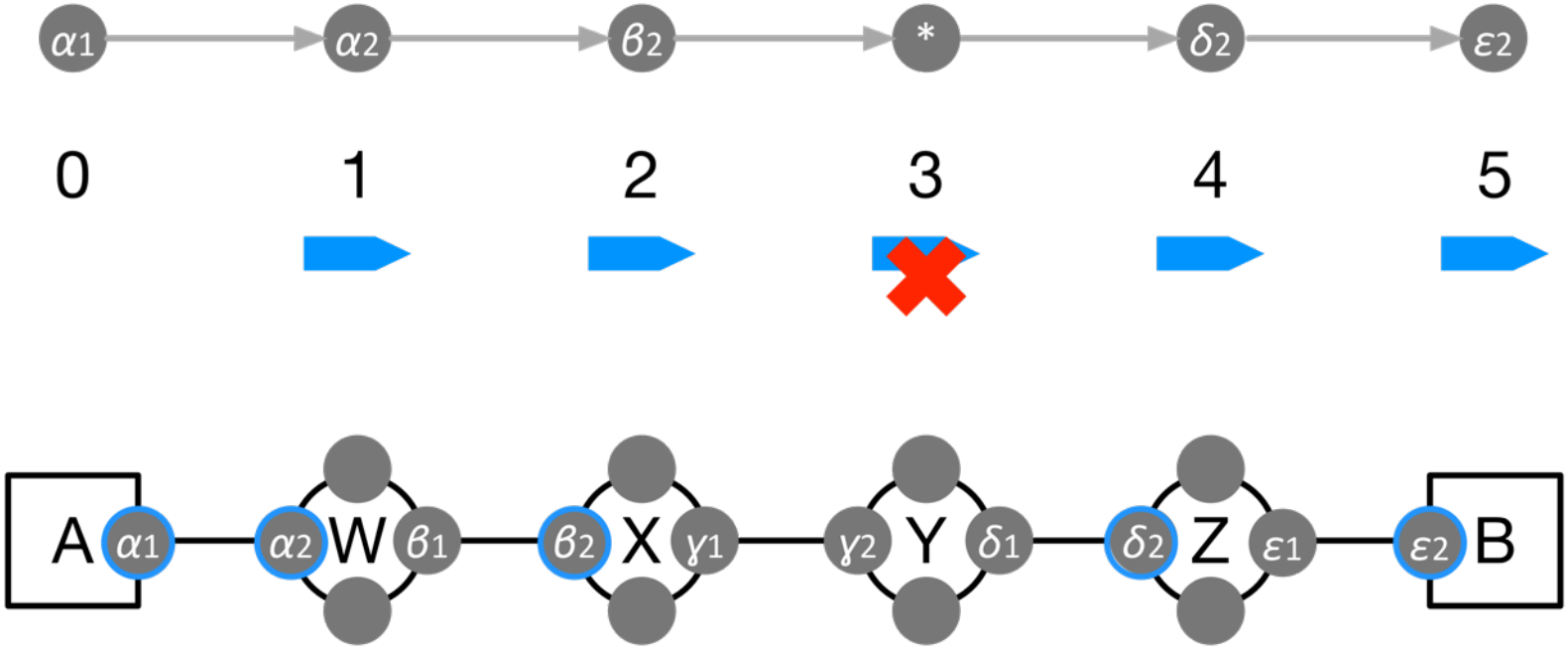

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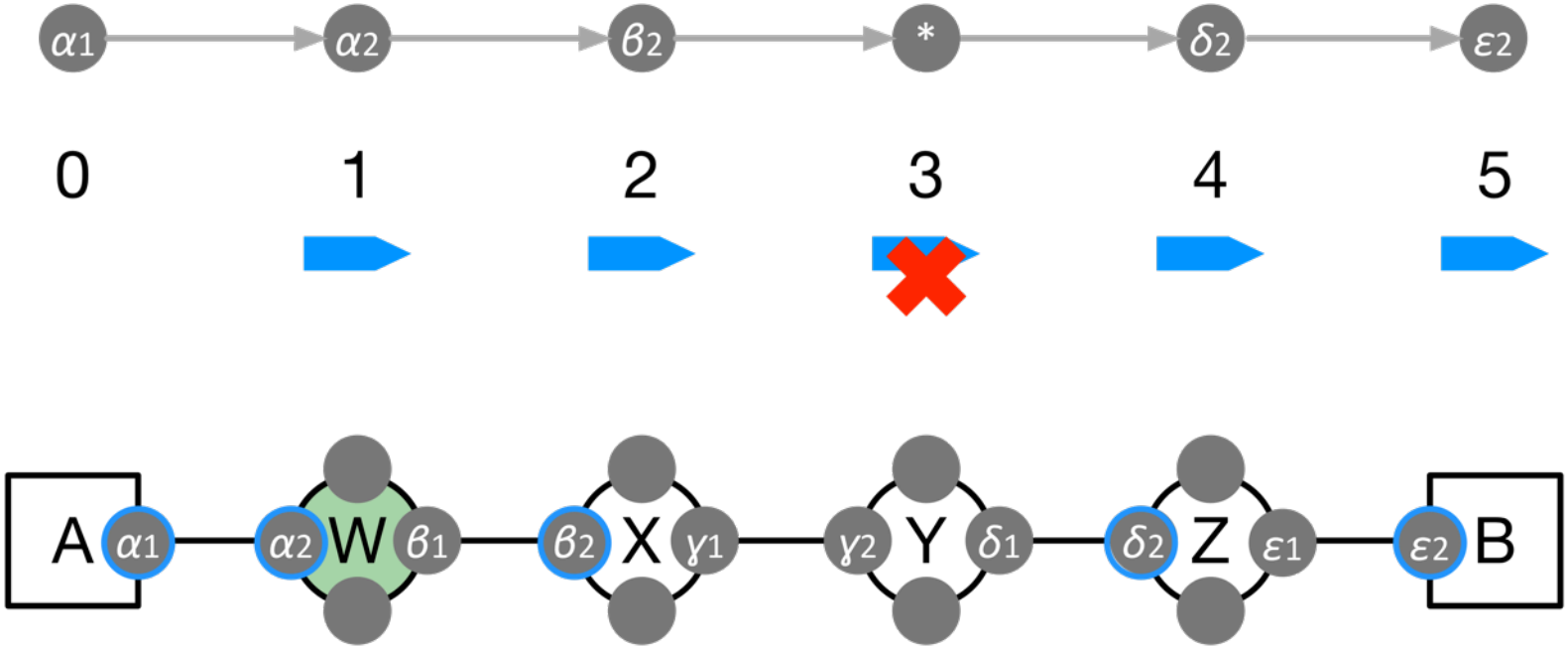

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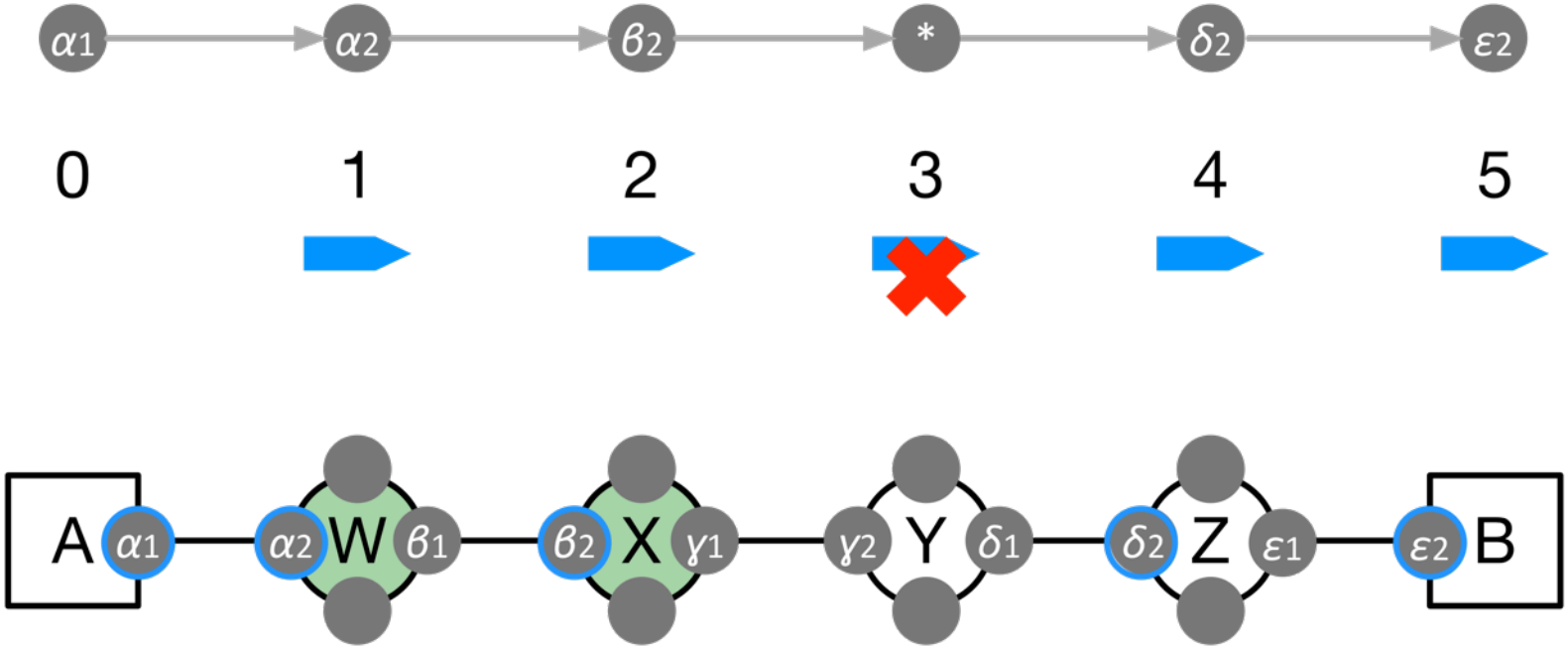

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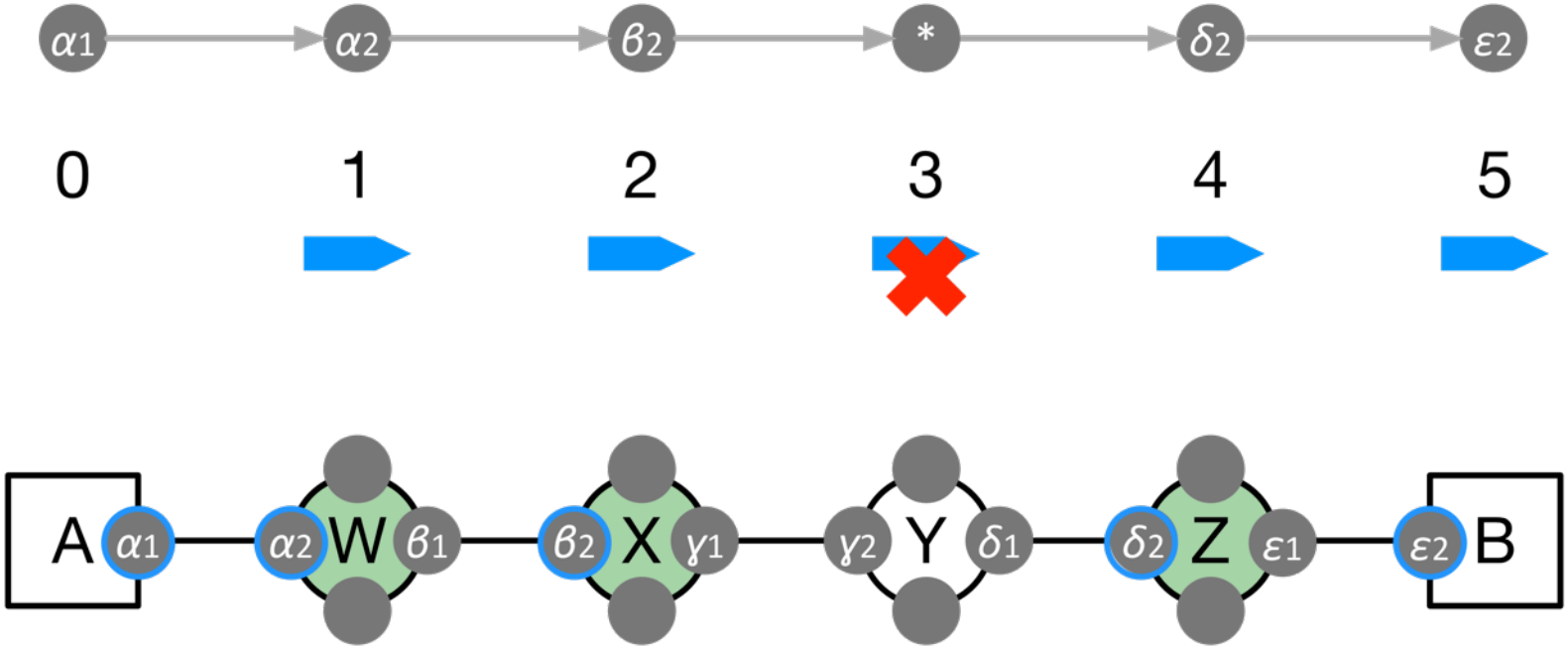

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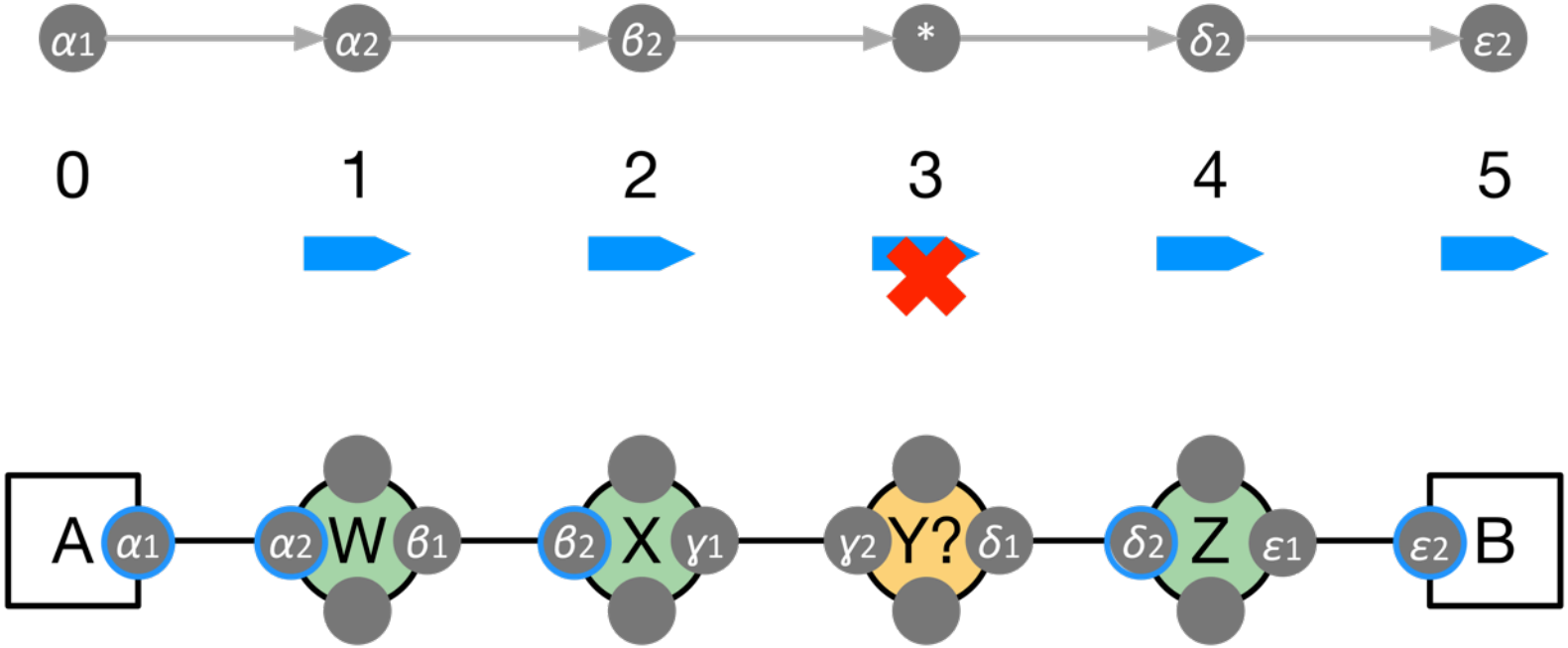

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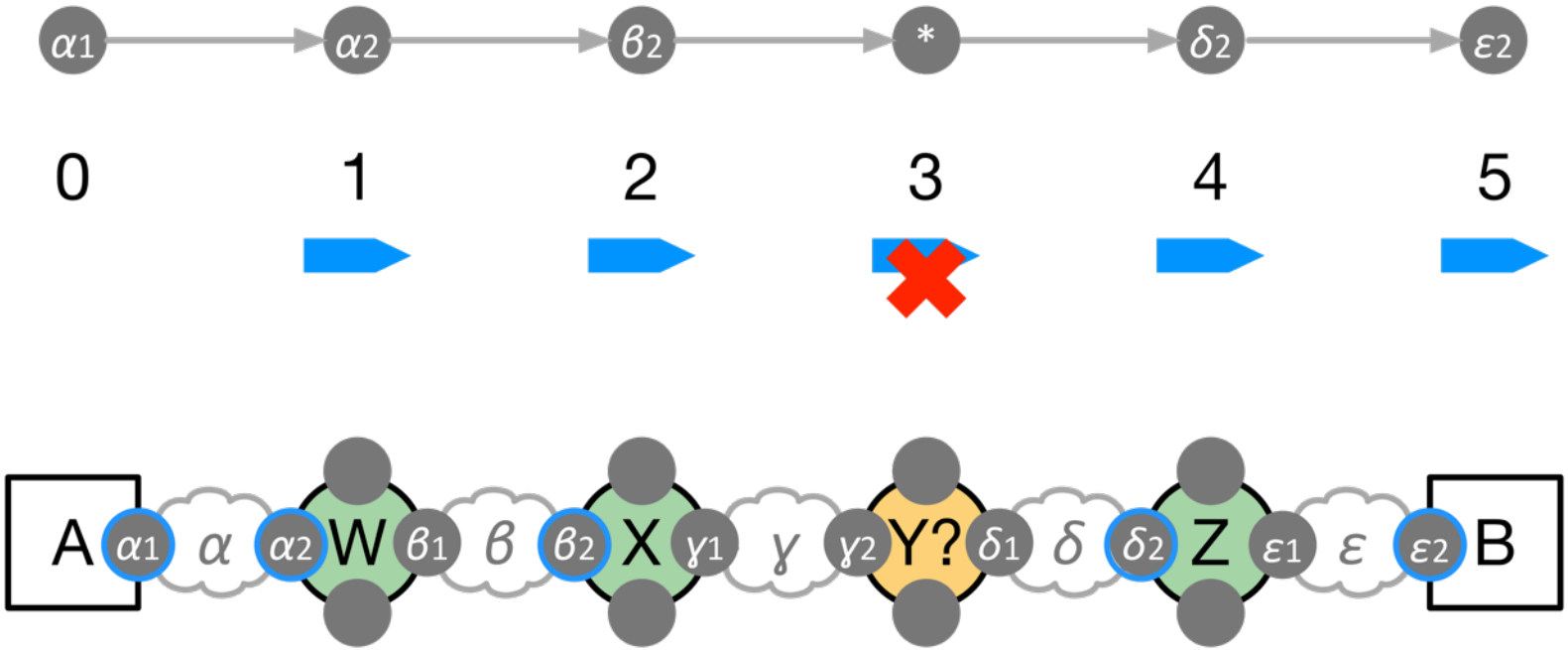

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ε2
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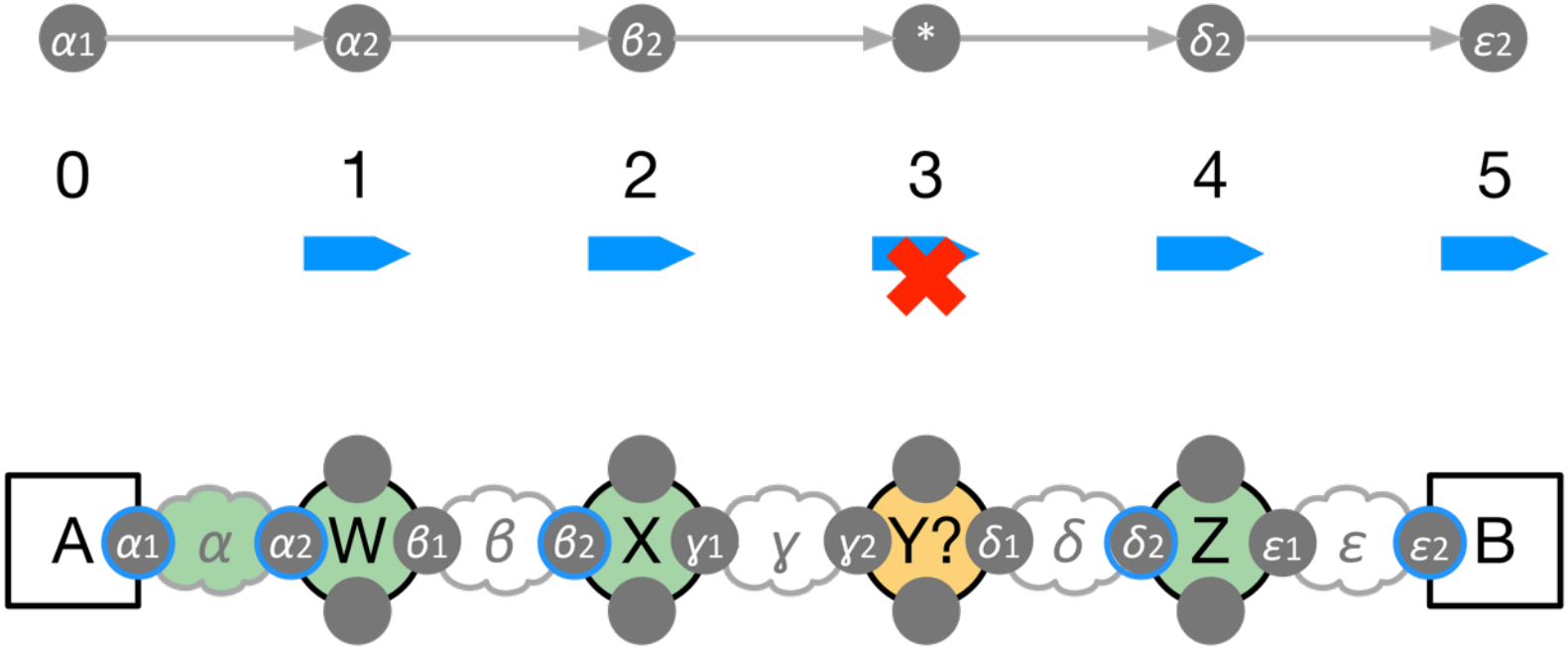

α1
α2
β2
*
δ2
ε2
0
1
2
3
4
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A
α1
α2
W
β1
β2
X
γ1
γ2
Y
δ1
δ2
Z
ε1
ε2
B

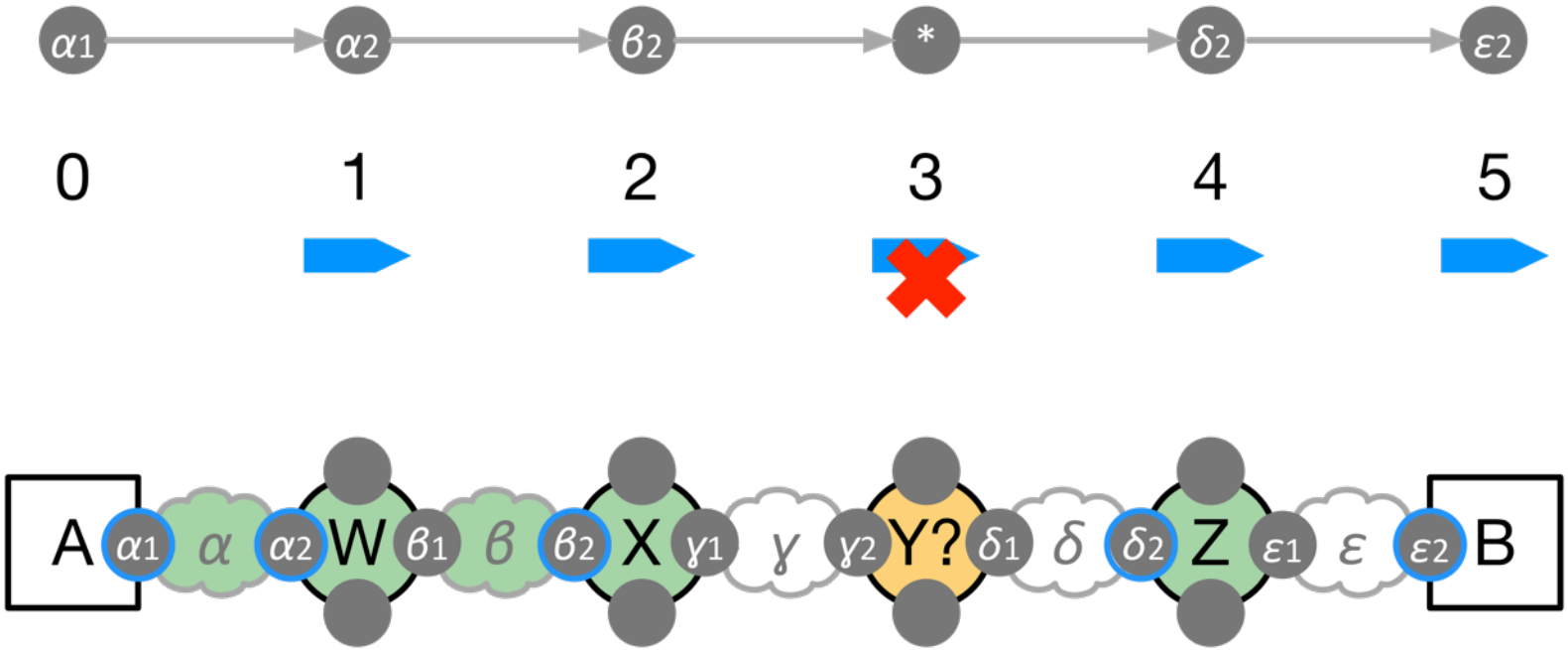

α1
α2
β2
*
δ2
ε2
0
1
2
3
4
5
A
α1
α2
W
β1
β2
X
γ1
γ2
Y
δ1
δ2
Z
ε1
ε2
B

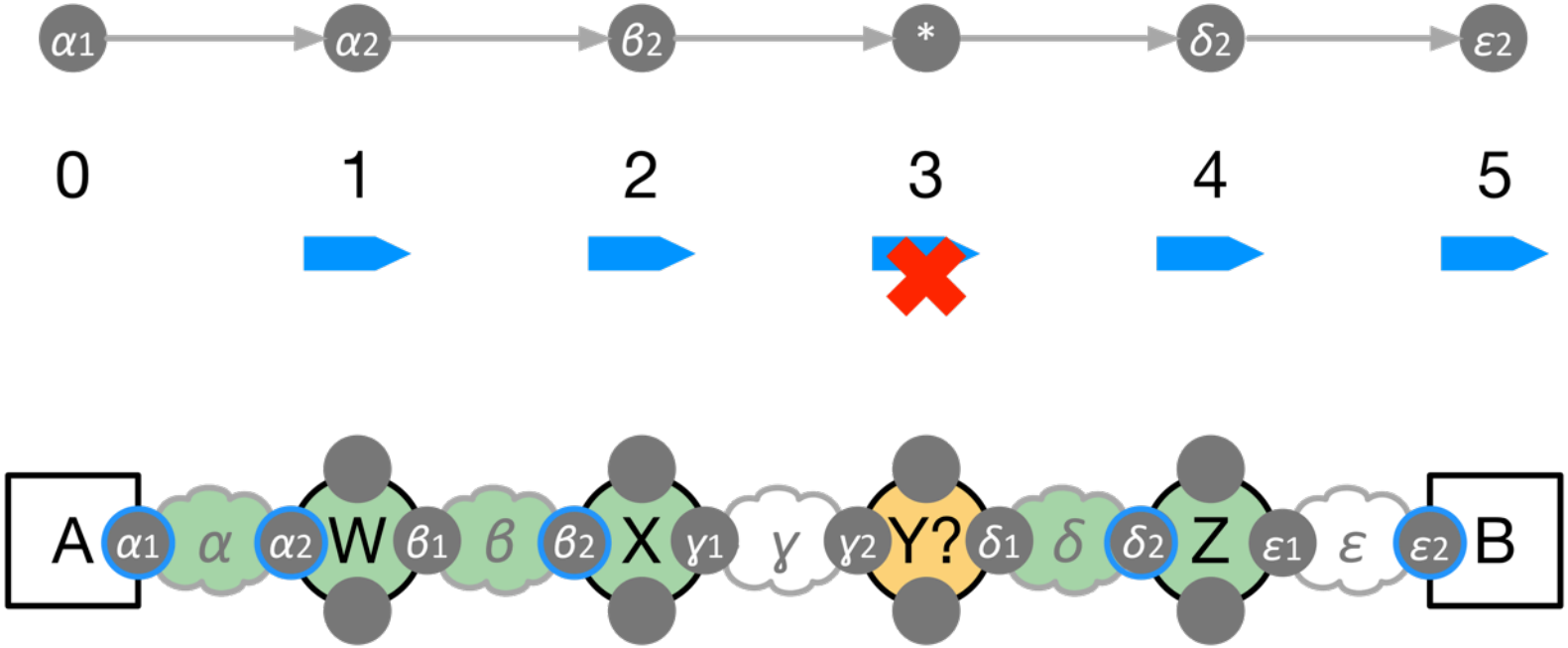

α1
α2
β2
*
δ2
ε2
0
1
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A
α1
α2
W
β1
β2
X
γ1
γ2
Y
δ1
δ2
Z
ε1
ε2
B

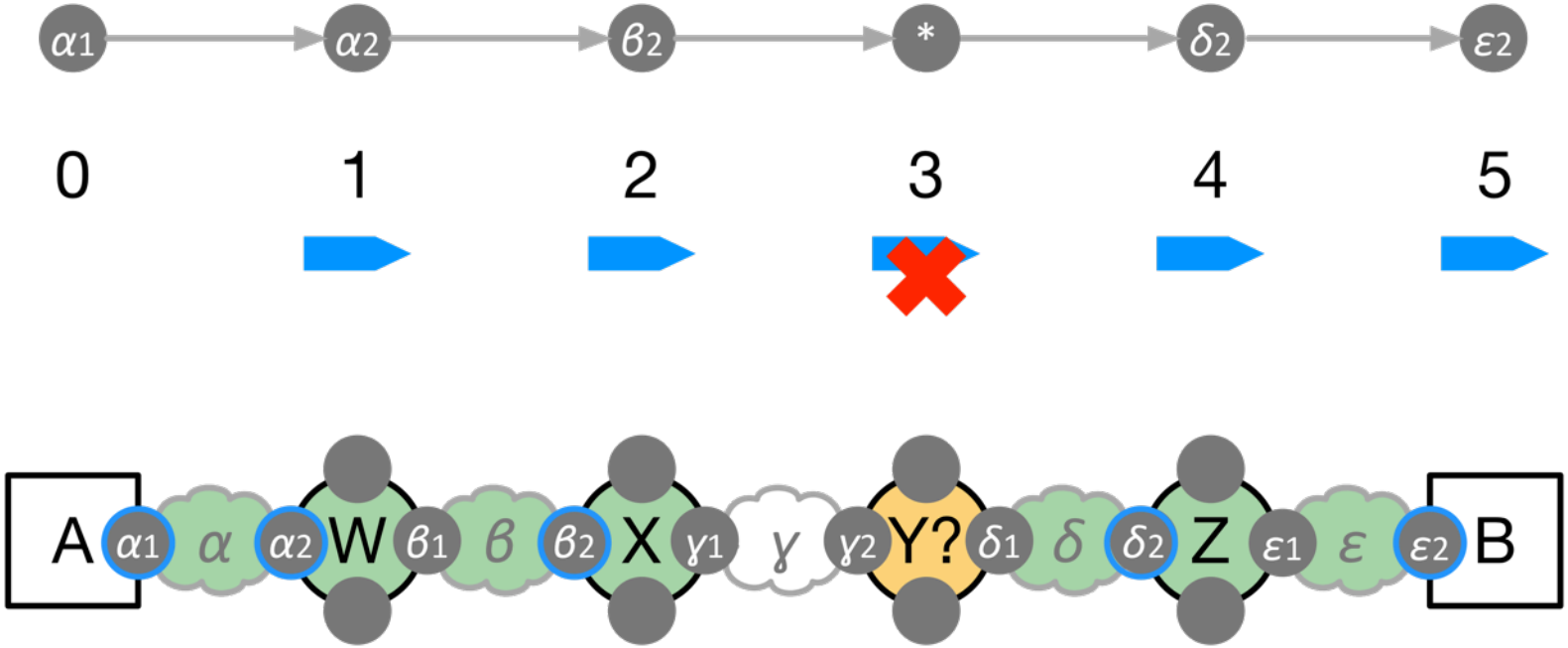

α1
α2
β2
*
δ2
ε2
0
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3
4
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A
α1
α2
W
β1
β2
X
γ1
γ2
Y?
δ1
δ2
Z
ε1
ε2
B

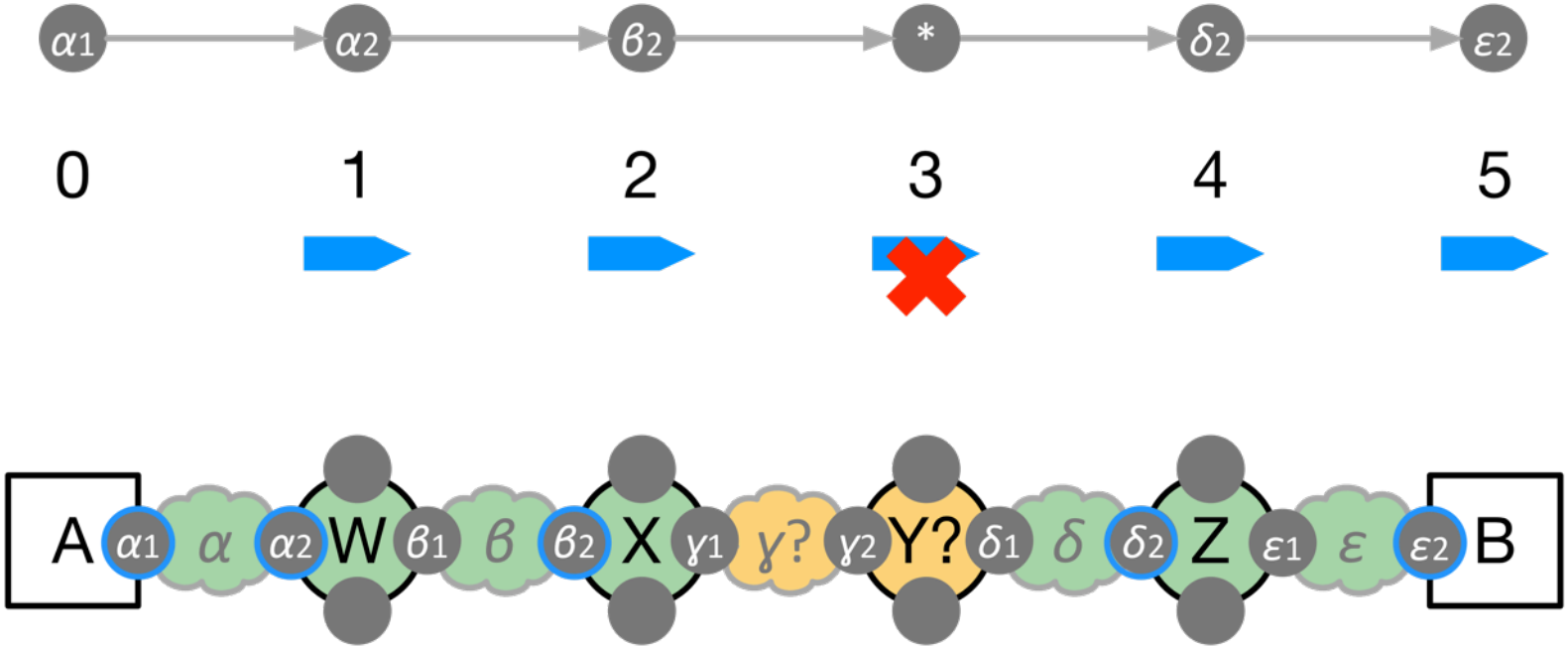

α1
α2
β2
*
δ2
ε2
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5
A
α1
α
α2
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β1
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β2
X
γ1
γ
γ2
Y?
δ1
δ
δ2
Z
ε1
ε
ε2
B

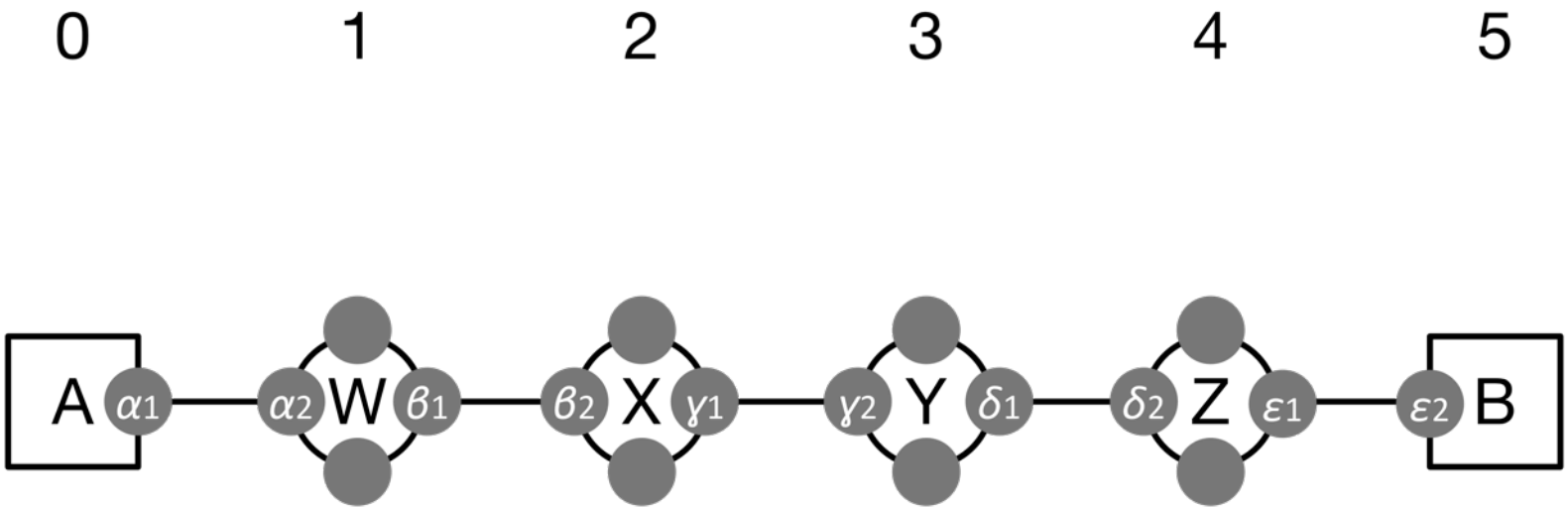

α1
α2
β2
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δ2
ε2
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A
α1
α
α2
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β2
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γ1
γ
γ2
Y?
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δ
δ2
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ε1
ε
ε2
B

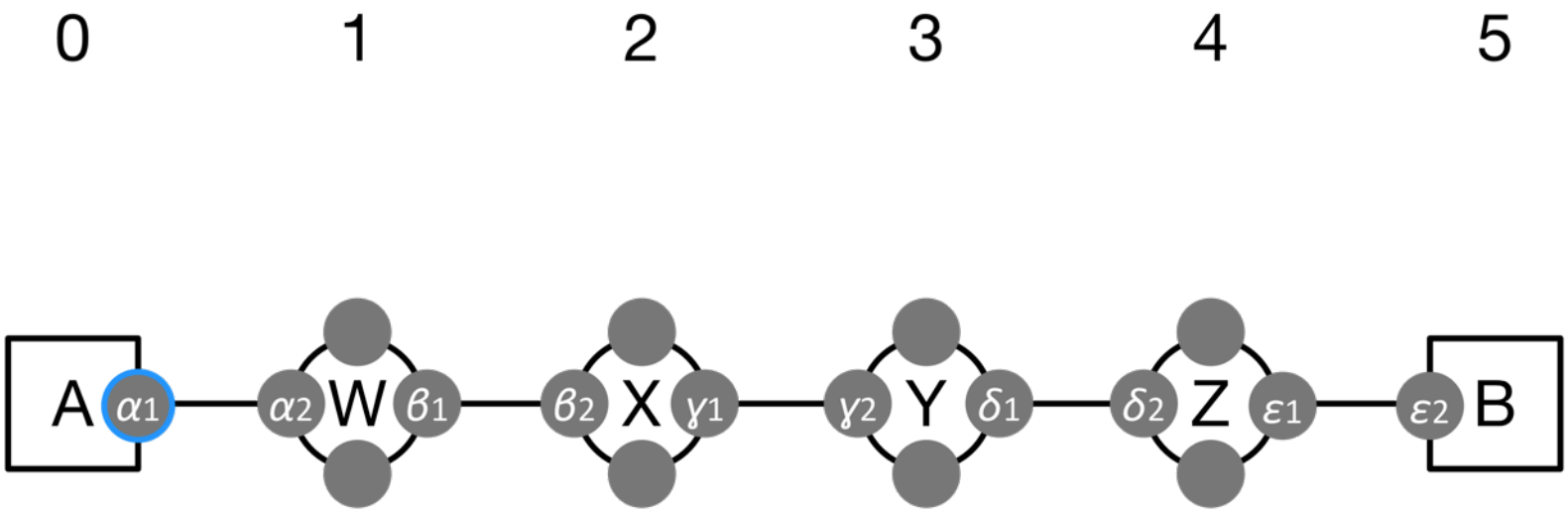

α1
α2
β2
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δ2
ε2
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α1
α
α2
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γ2
Y?
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δ2
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ε1
ε
ε2
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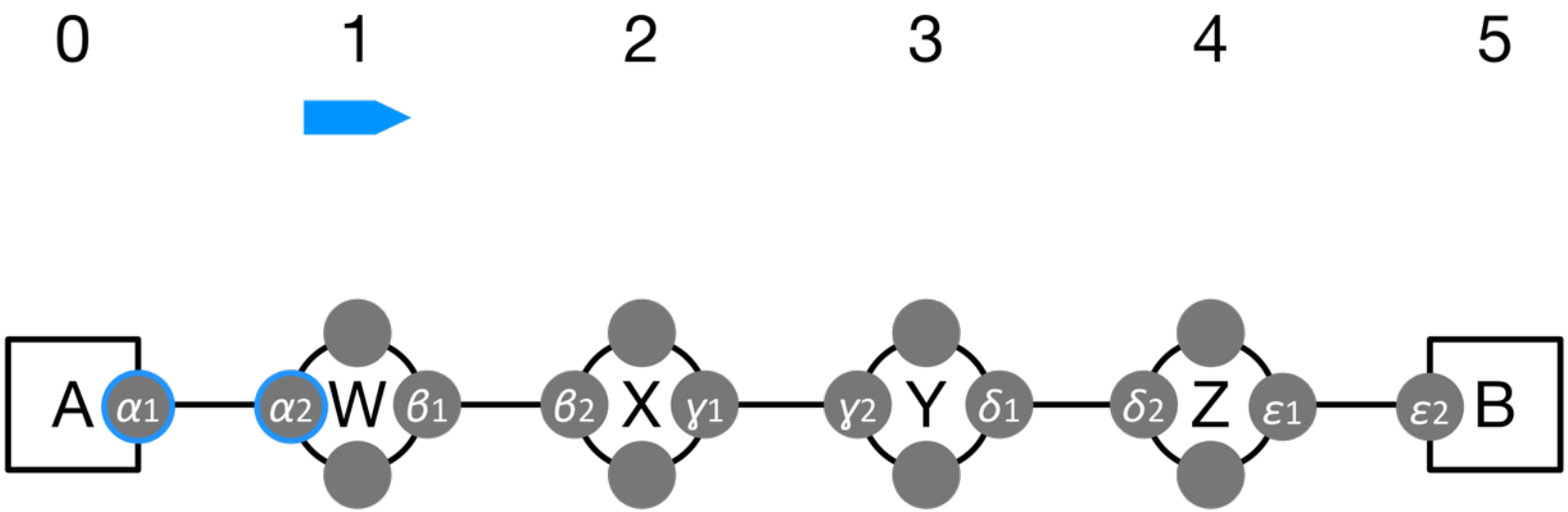

α1
α2
β2
*
δ2
ε2
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α1
α
α2
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β2
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γ1
γ
γ2
Y?
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δ
δ2
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ε1
ε
ε2
B

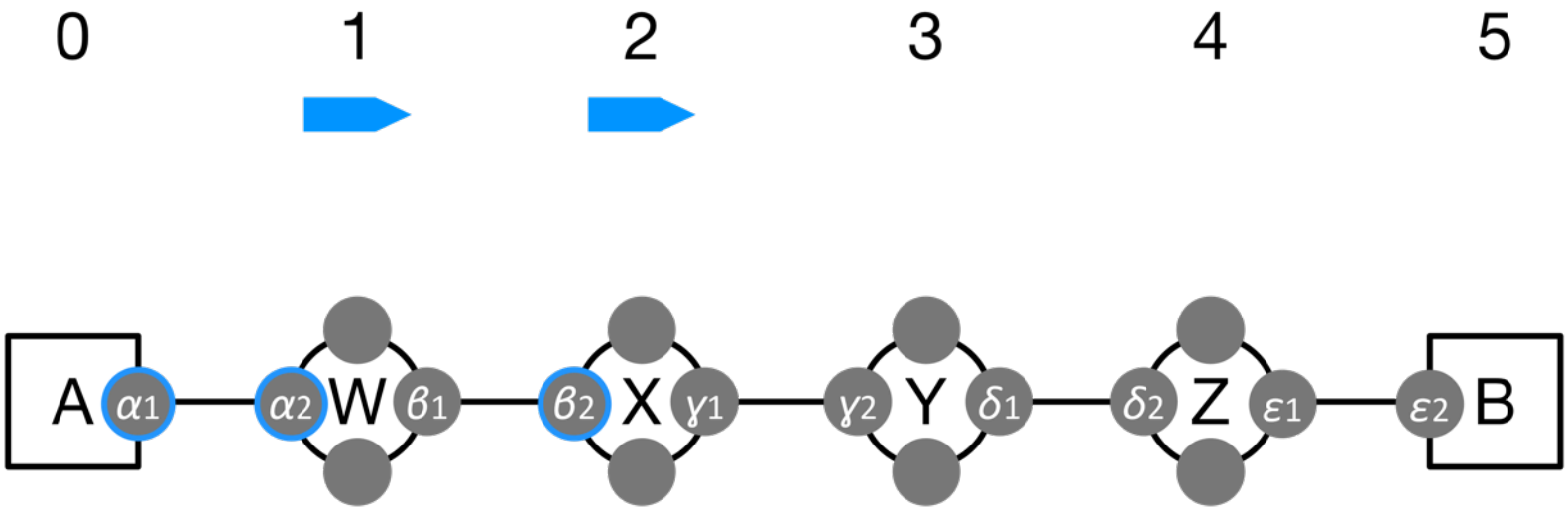

α1
α2
β2
*
δ2
ε2
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α1
α
α2
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γ2
Y?
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δ2
Z
ε1
ε
ε2
B

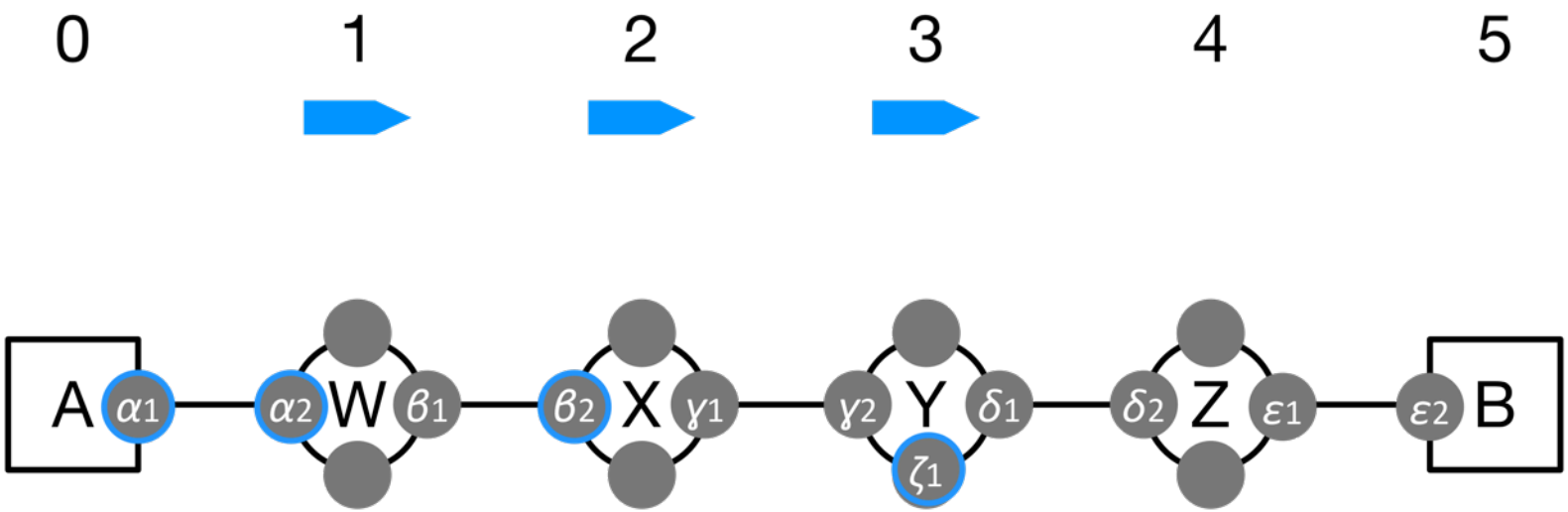

α1
α2
β2
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δ2
ε2
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α2
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γ?
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Y?
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ε2
B

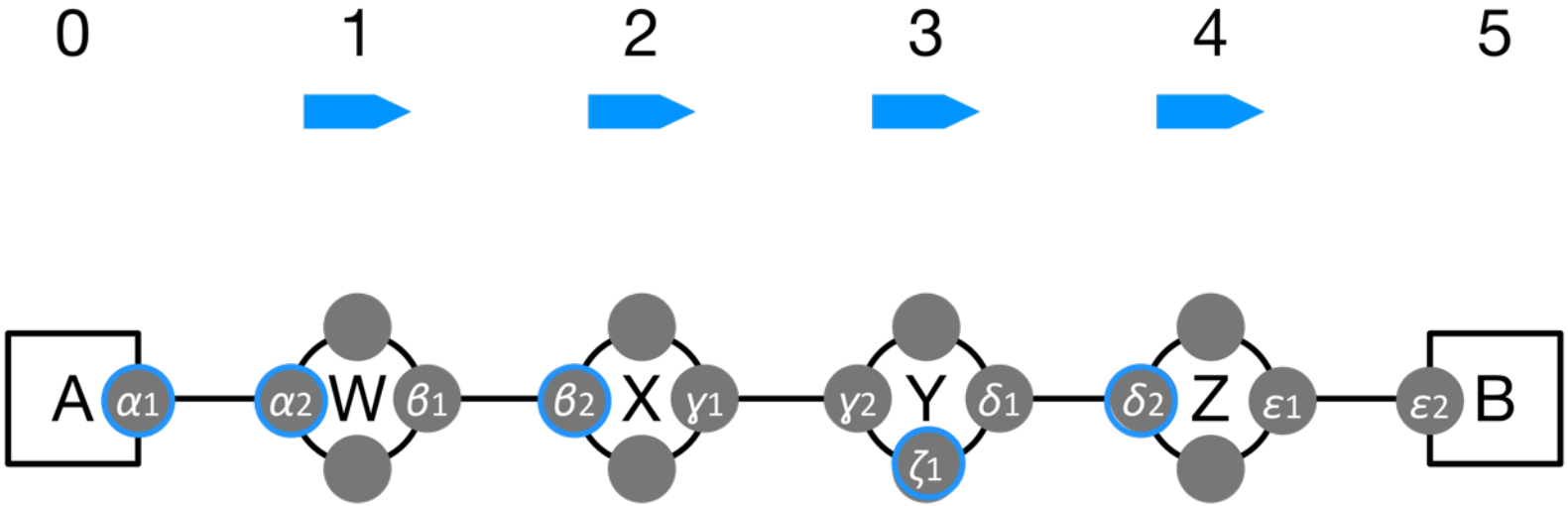

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β1
β2
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γ1
γ2
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δ1
δ2
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ε1
ε2
B

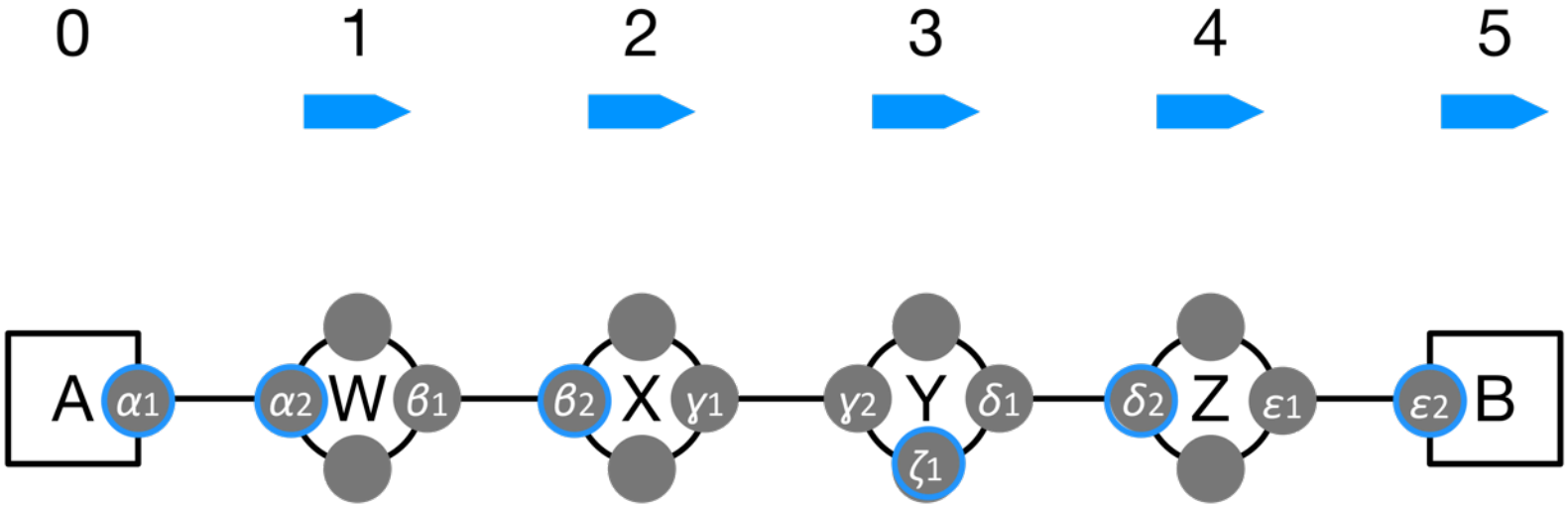

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α1
α2
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γ1
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Y
δ1
δ2
Z
ε1
ε2
B

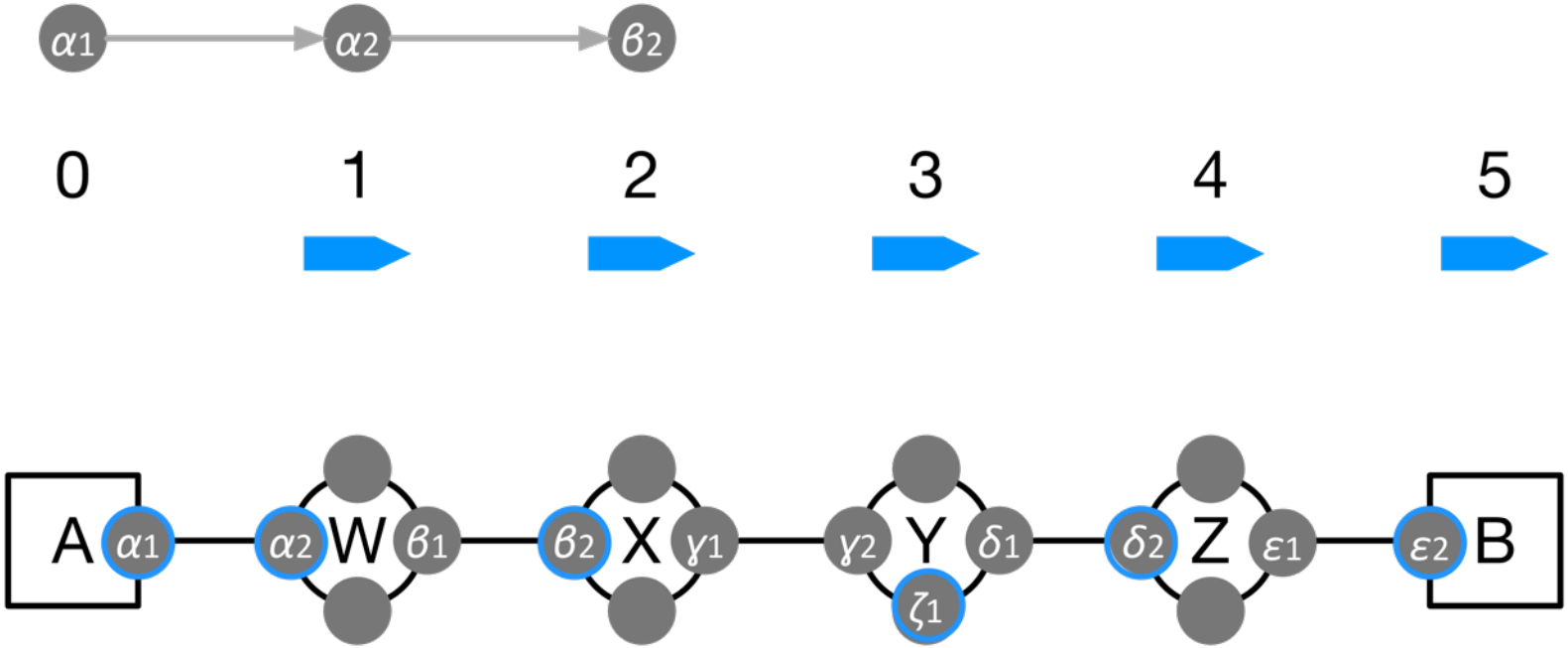

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α1
α2
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β2
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γ1
γ2
Y
δ1
δ2
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ε1
ε2
B

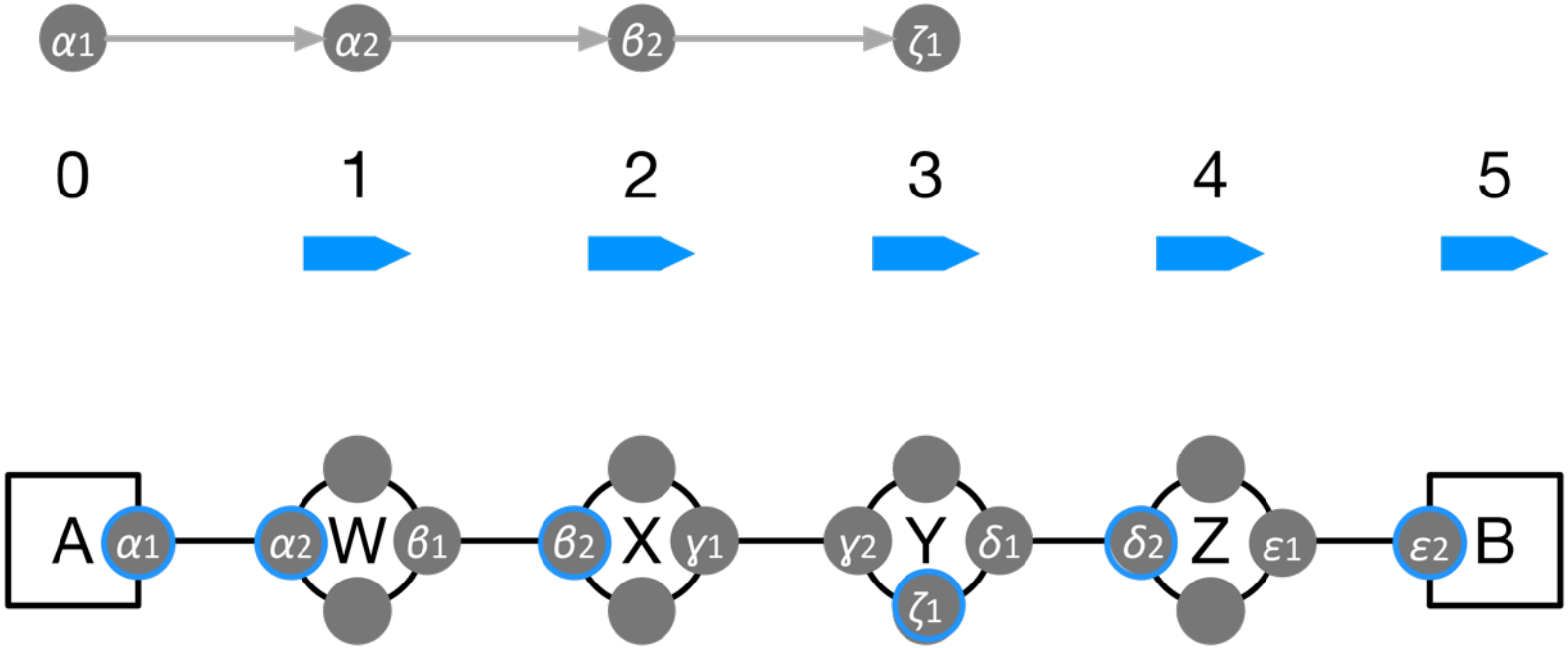

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α1
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γ2
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δ1
δ2
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ε1
ε2
B

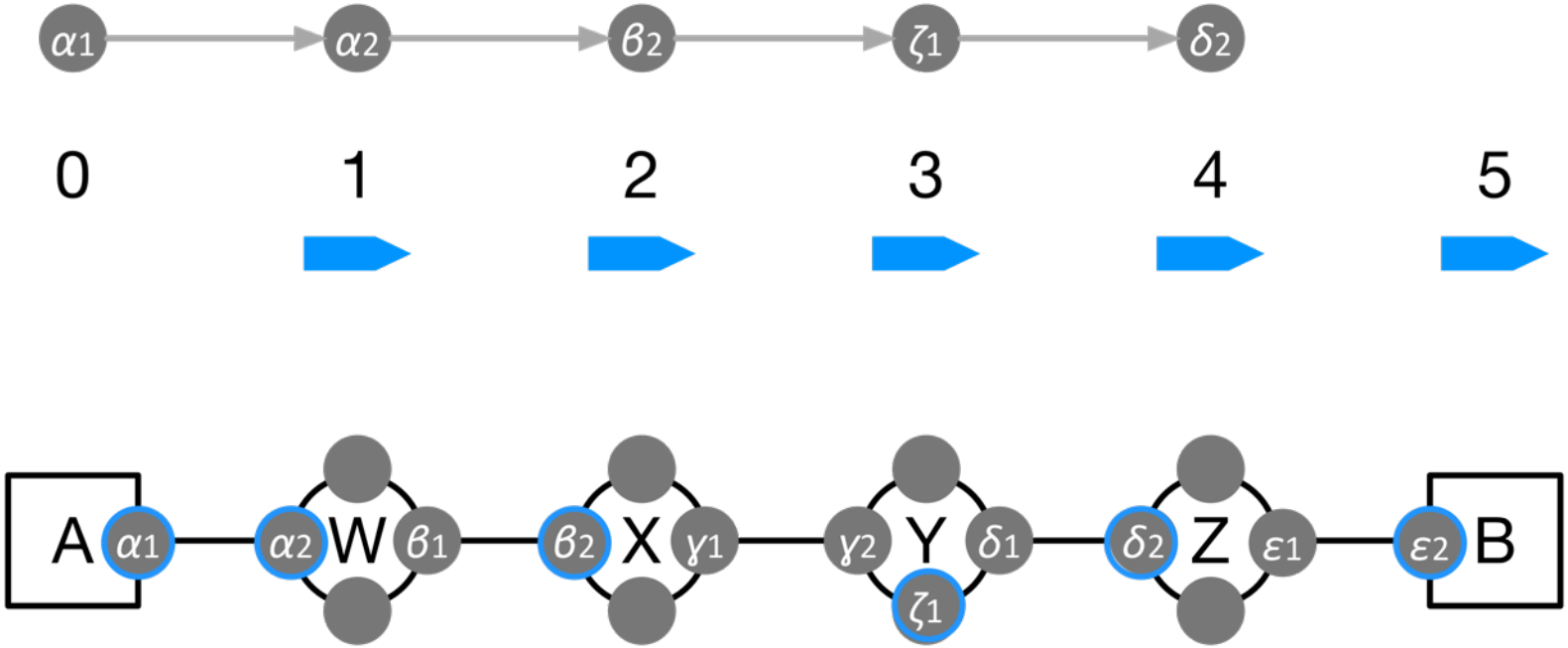

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A
α1
α2
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β1
β2
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γ1
γ2
Y
δ1
ζ1
δ2
Z
ε1
ε2
B

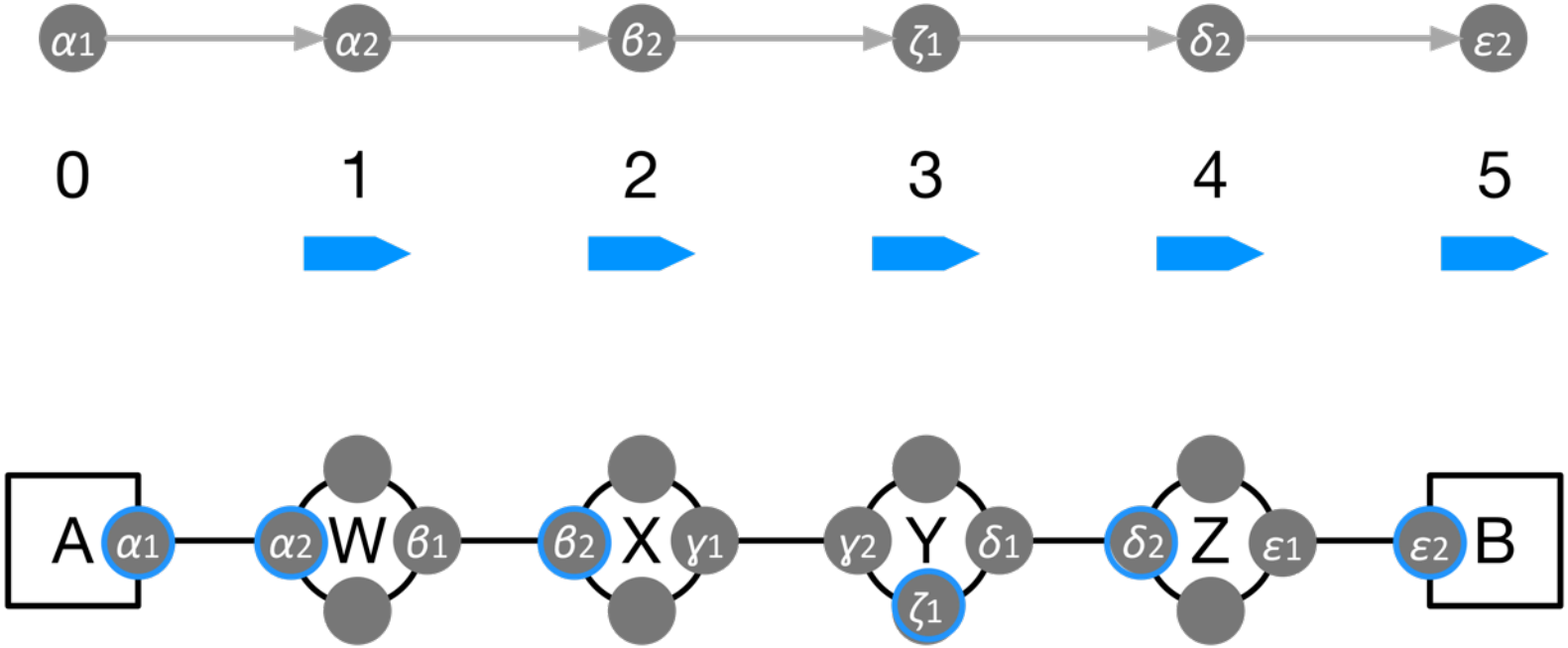

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β1
β2
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γ1
γ2
Y
δ1
ζ1
δ2
Z
ε1
ε2
B

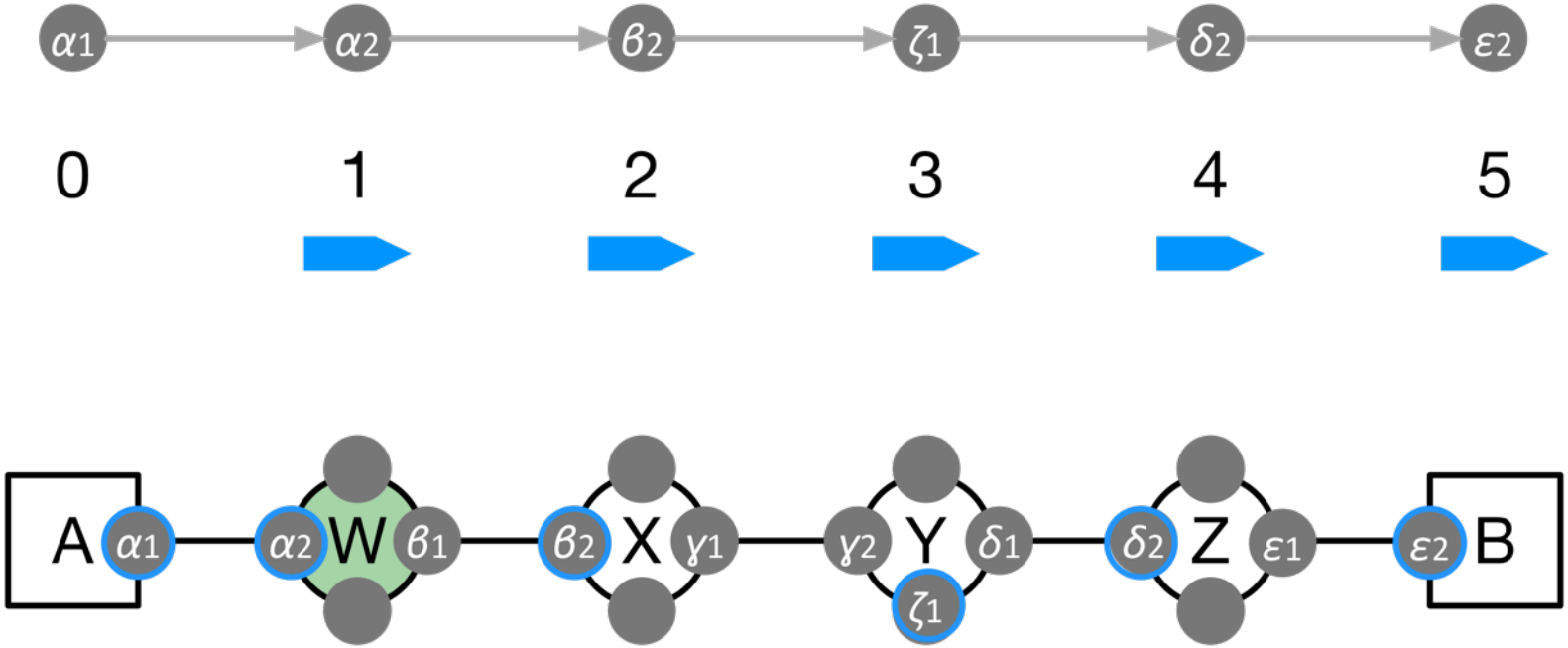

0
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α1
α2
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β1
β2
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γ1
γ2
Y
δ1
ζ1
δ2
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ε1
ε2
B

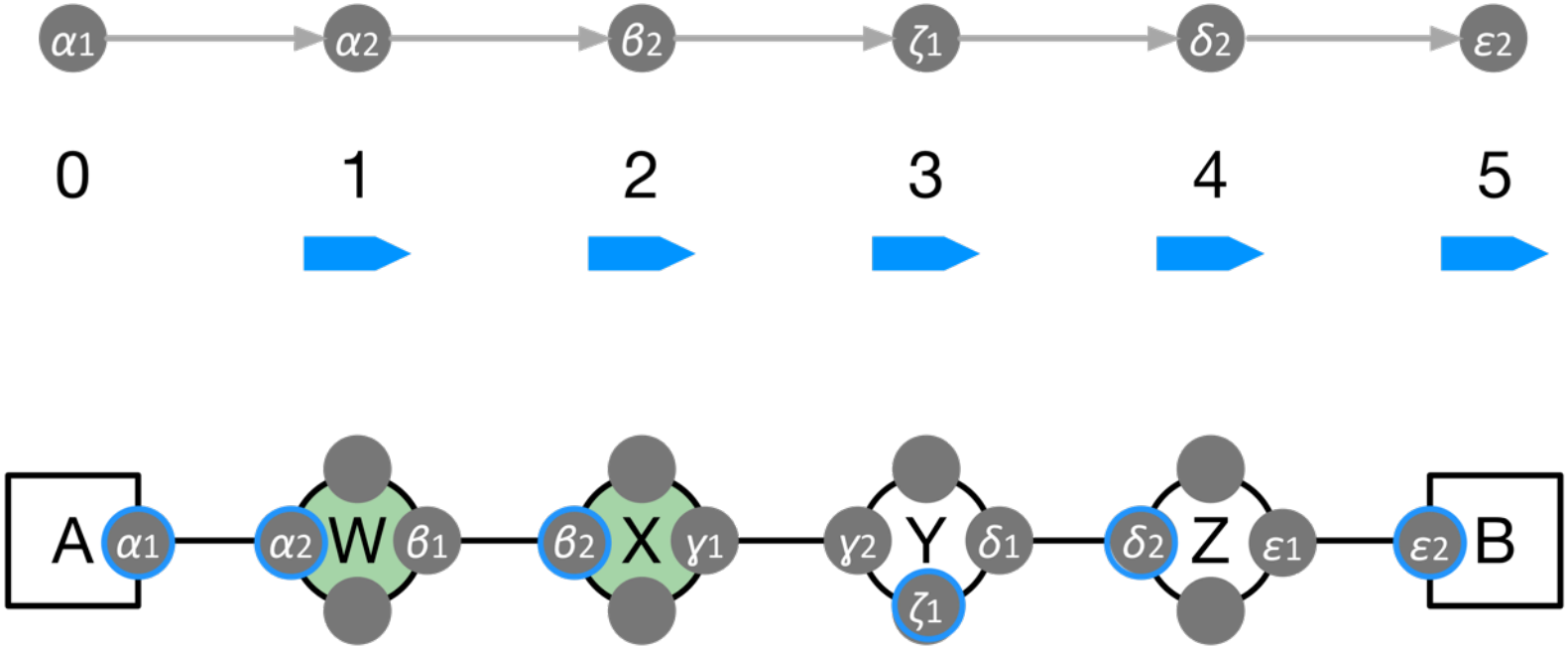

α1
α2
β2
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β1
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δ2
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ε1
ε2
B

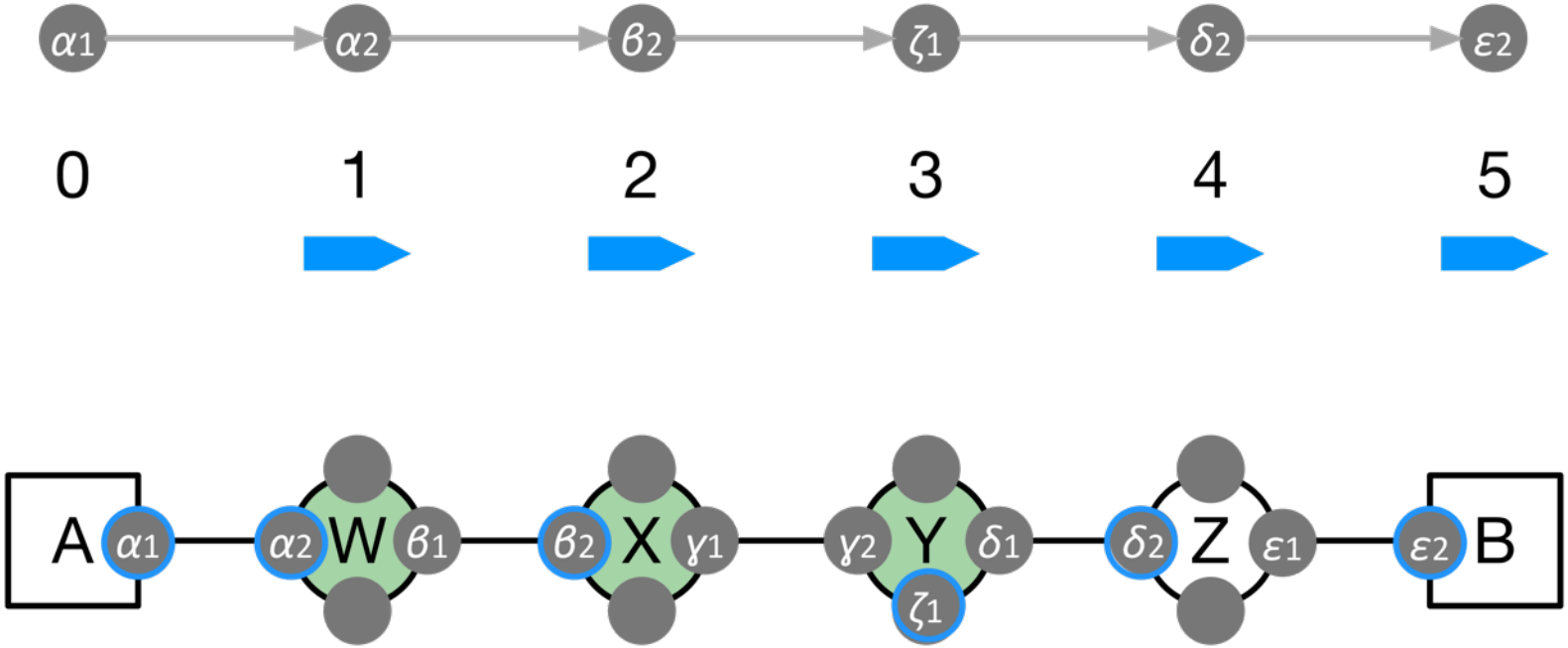

α1
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β2
ζ1
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β2
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δ2
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ε1
ε2
B

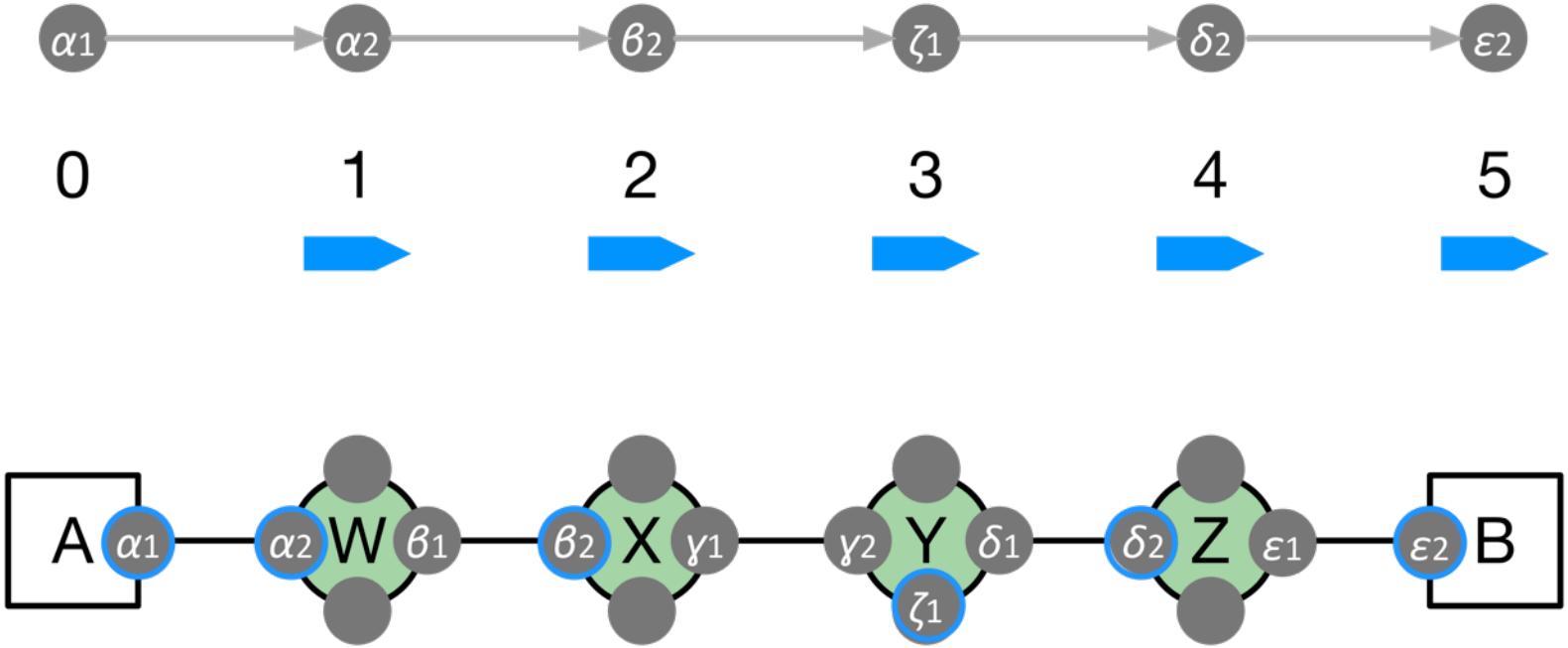

α1
α2
β2
ζ1
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β2
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γ1
γ2
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δ1
ζ1
δ2
Z
ε1
ε2
B

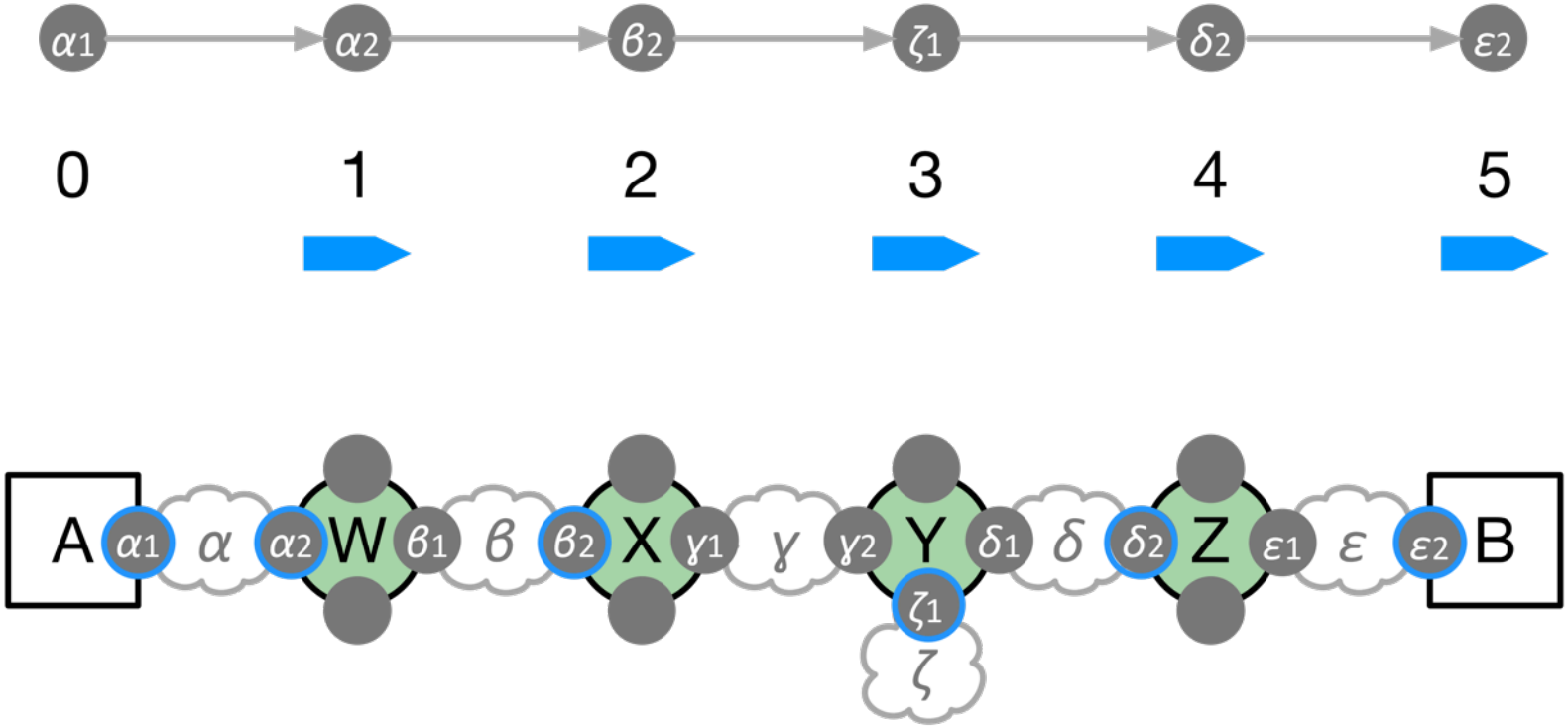

α1
α2
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ζ1
δ2
ε2
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β1
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δ1
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δ2
Z
ε1
ε2
B

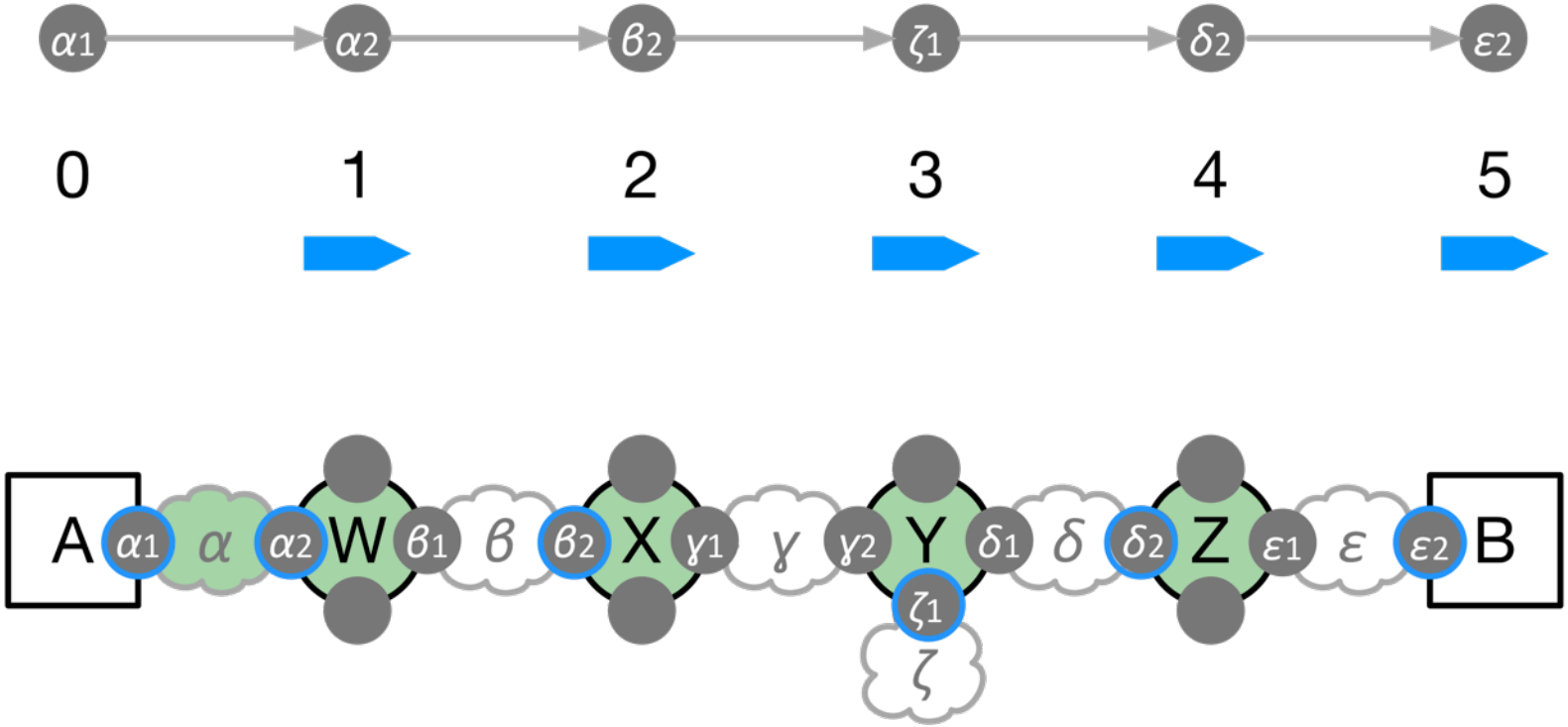

α1
α2
β2
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δ2
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ε2
B

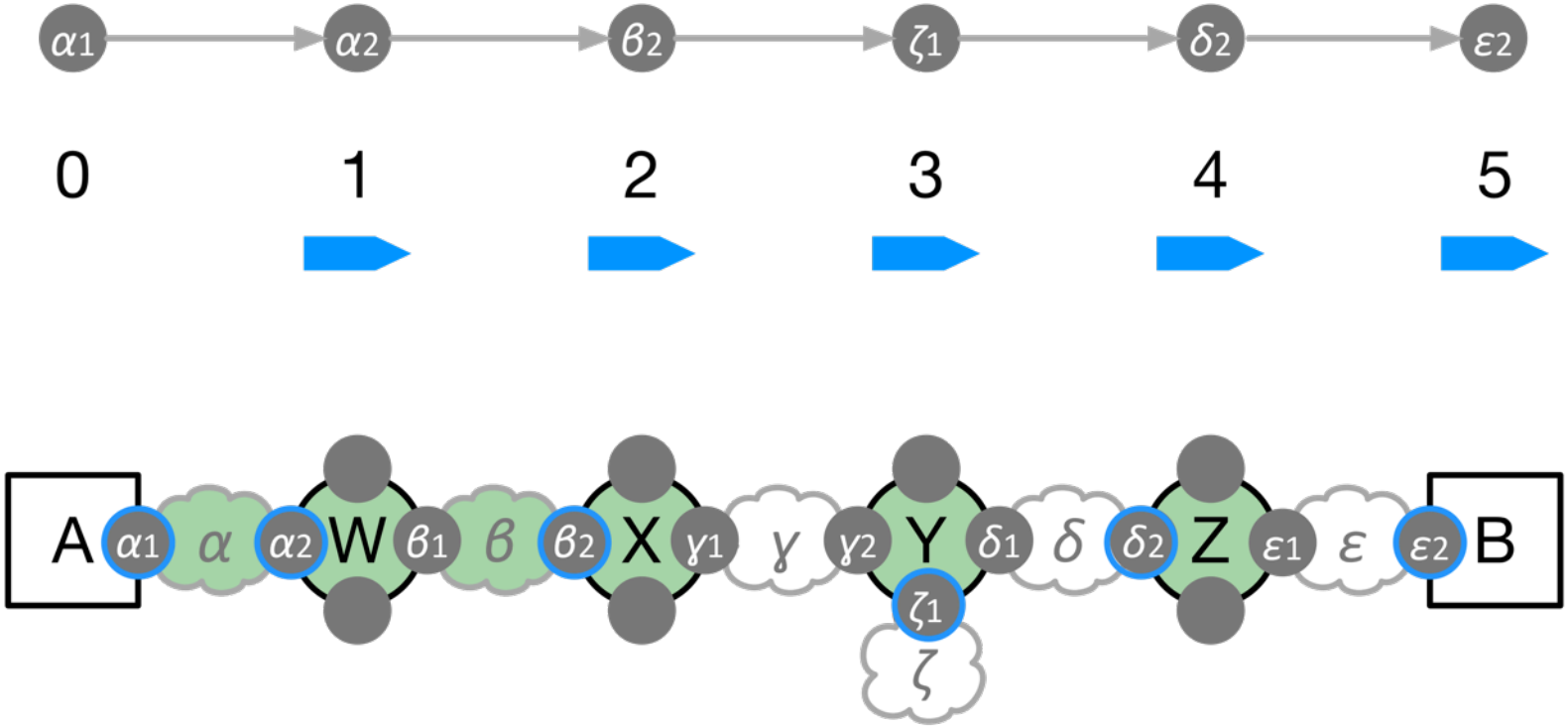

α1
α2
β2
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δ2
ε2
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β2
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δ2
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ε1
ε2
B

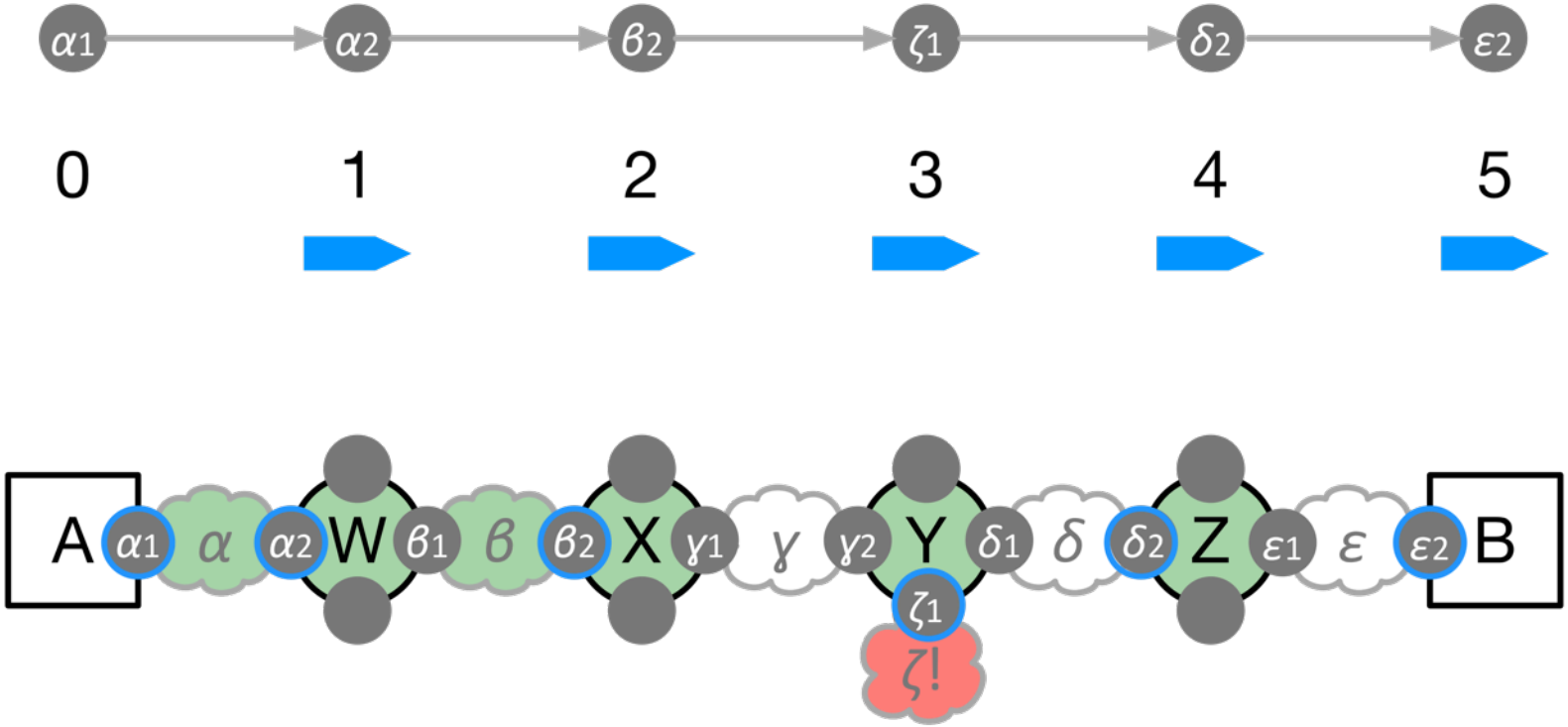

α1
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ζ1
δ2
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β1
β2
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ε1
ε2
B

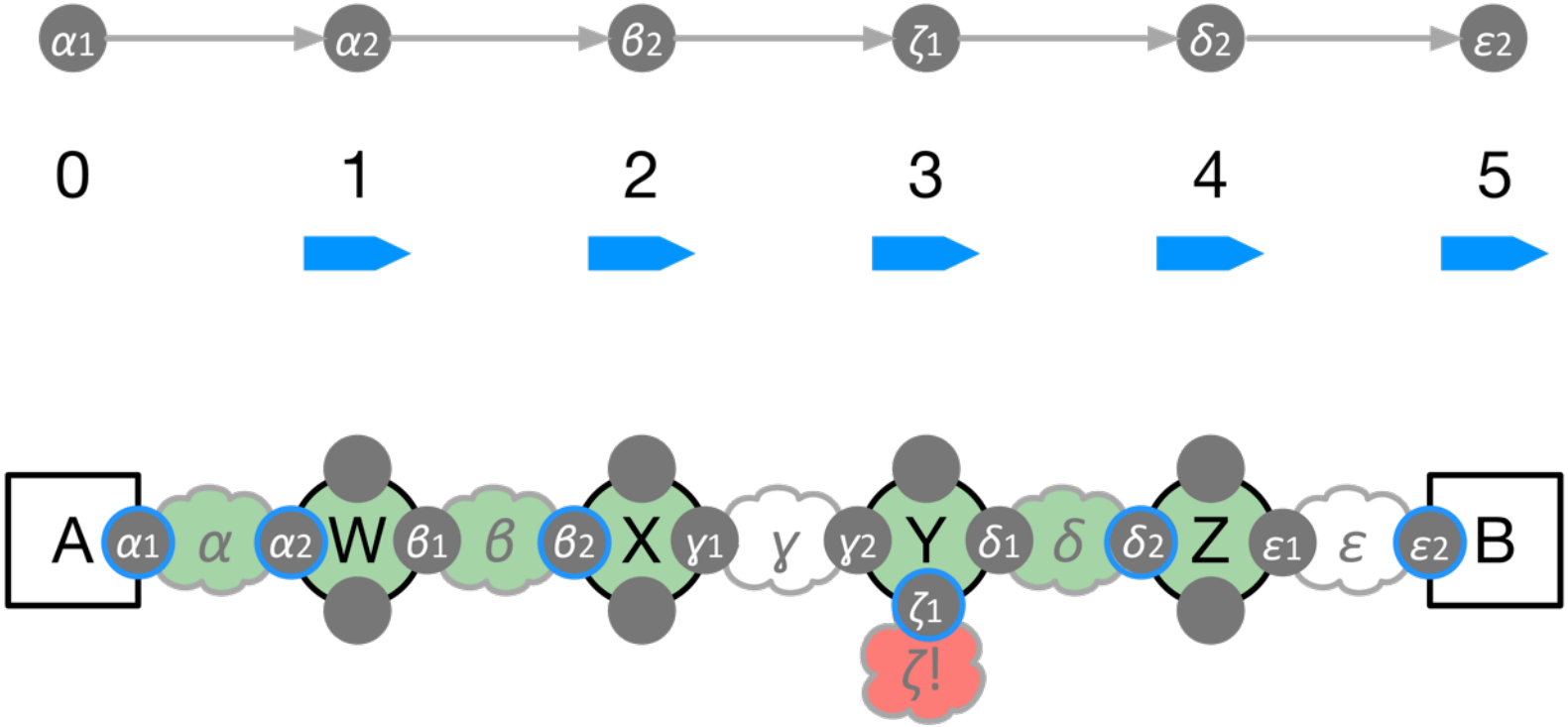

α1
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ε2
B

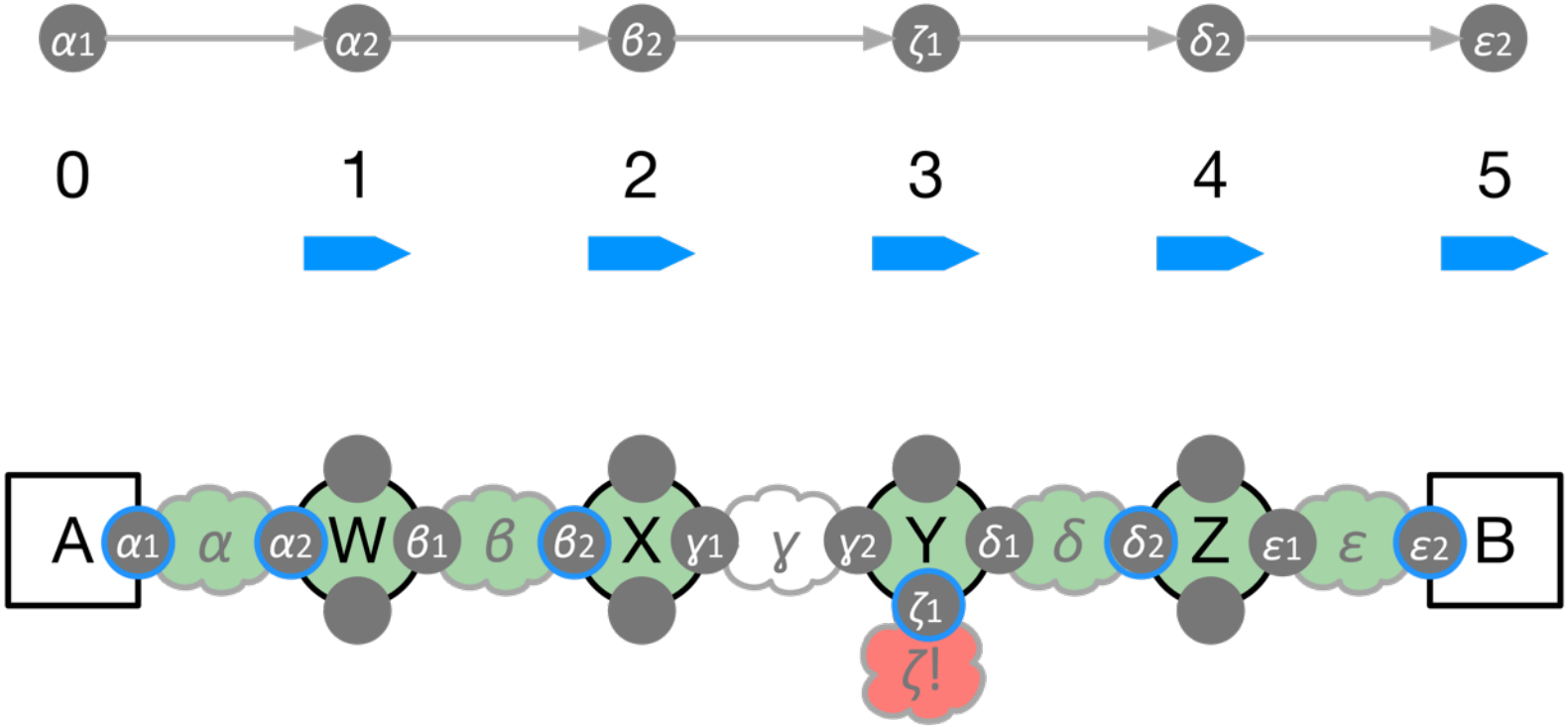

α1
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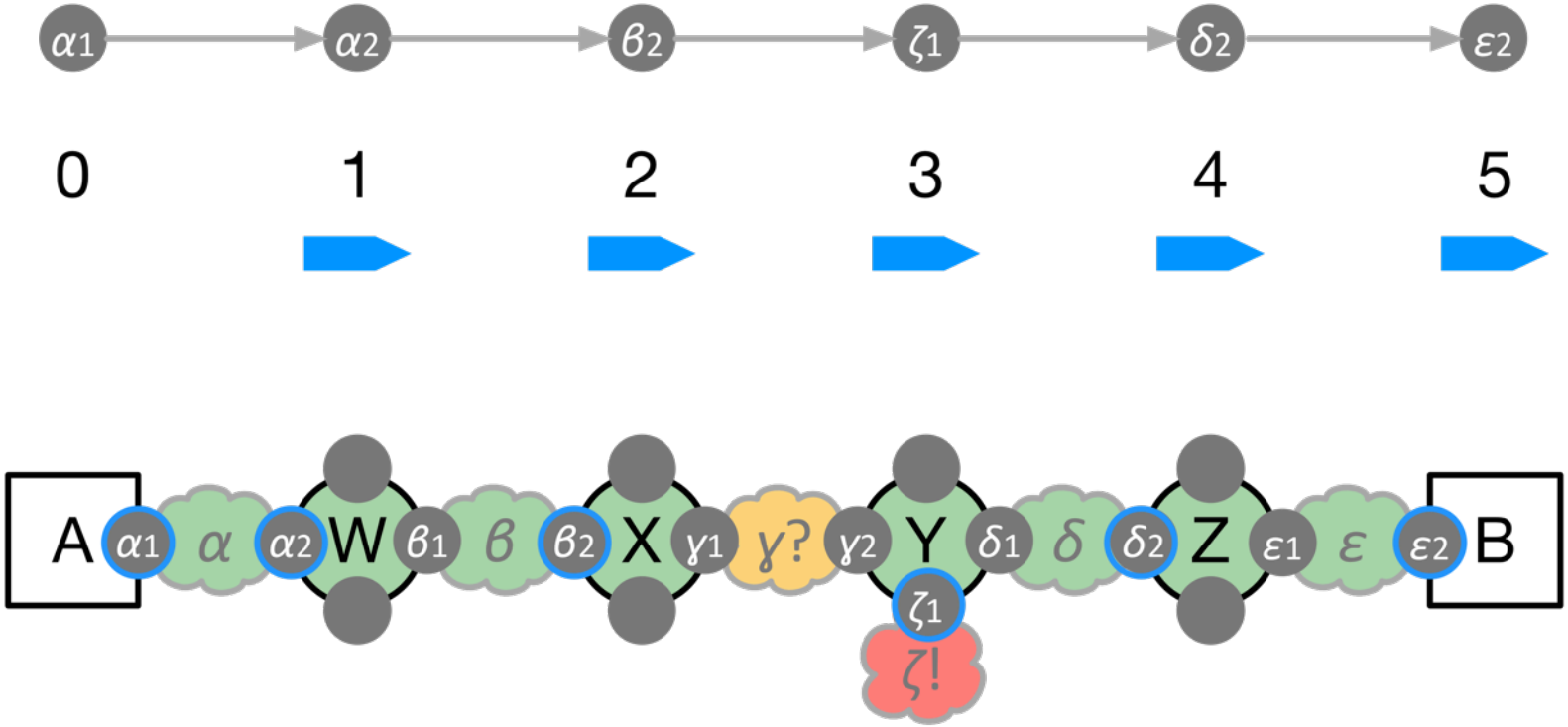

α1
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α1
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α1
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α1
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ζ!


α1
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ε2
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ζ1
ζ!


α1
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β2
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γ2
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δ
δ2
Z
ε1
ε
ε2
B
ζ1
ζ!

Traceroute - limits

- Two scenarios
  - "Star"
  - Reply from non-ingress interface
- Limitations
  - Missing information
  - Misleading information