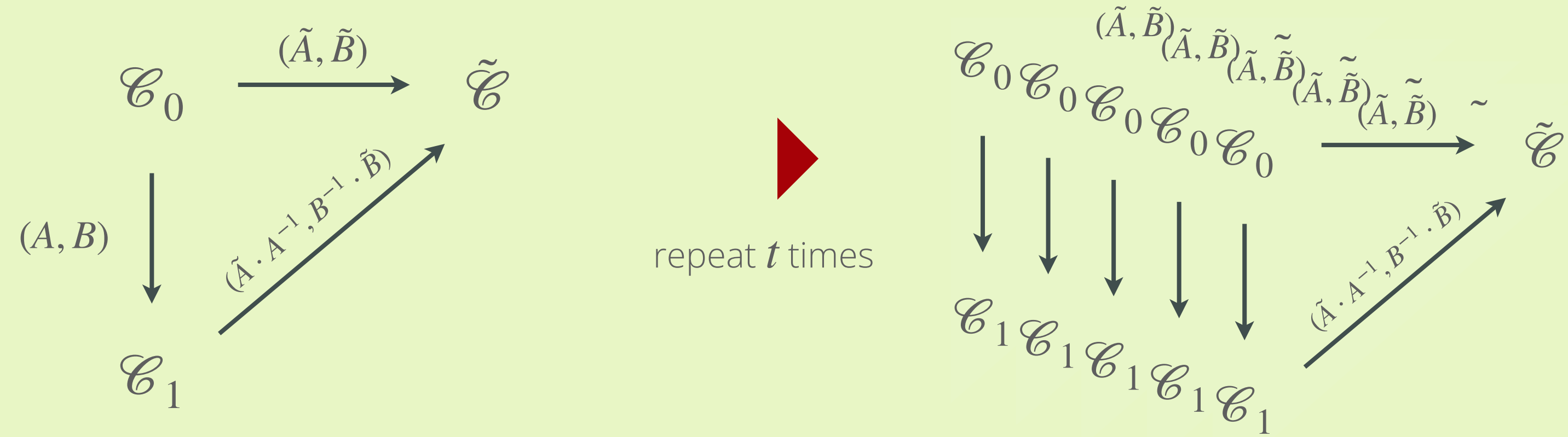




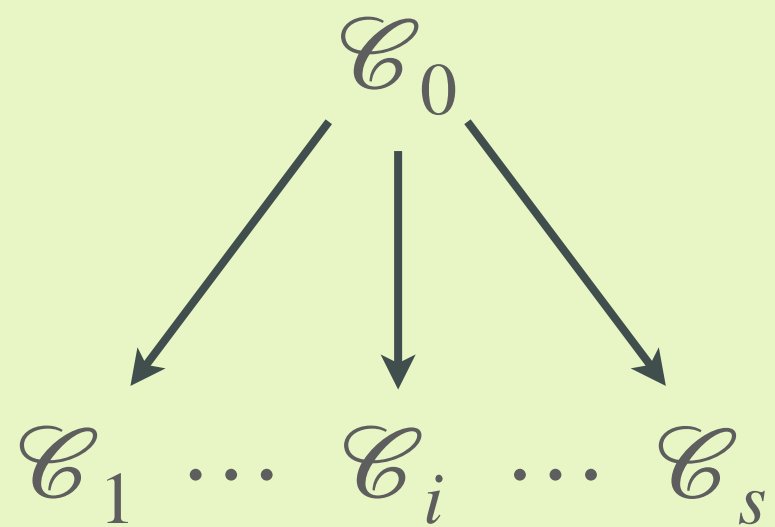
**From MCE
to MEDS**

naive approach



multiple pk

[1]



provide s public keys, $b \in \{0, \dots, s\}$
response is isometry $\mathcal{C}_b \rightarrow \tilde{\mathcal{C}}$

[1] L. De Feo and S. D. Galbraith. SeaSign: Compact isogeny signatures from class group actions. EUROCRYPT 2019.

[2] W. Beullens, S. Katsumata, and F. Pintore. Calamari and Falafel: Logarithmic (linkable) ring signatures from isogenies and lattices. ASIACRYPT 2020.

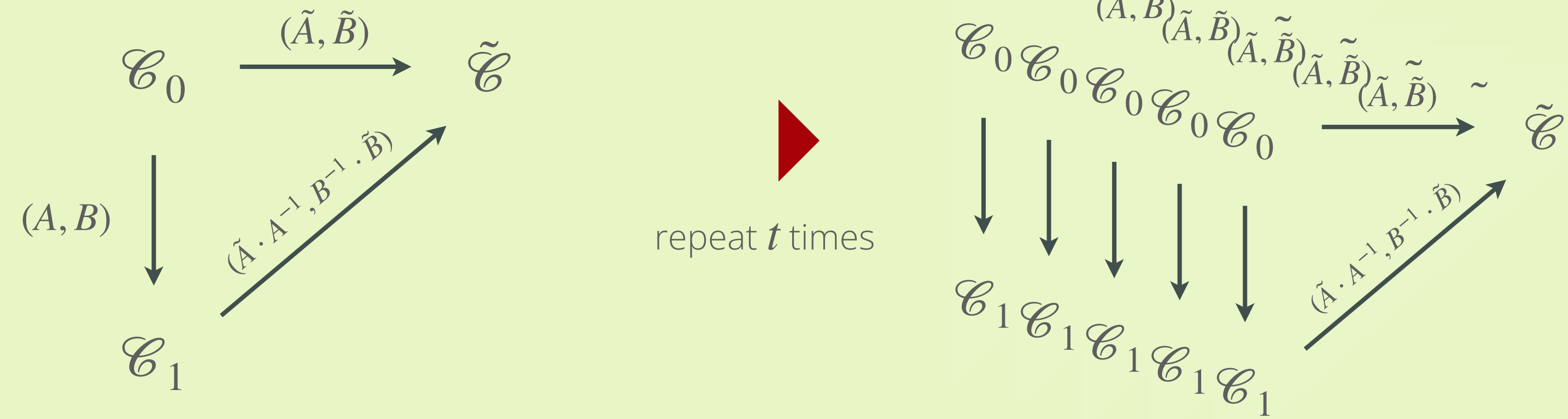
[3] J. Ding, M.-S. Chen, A. Petzoldt, D. Schmidt, B.-Y. Yang, M. Kannwischer, and J. Patarin. Rainbow. NIST 2020.

[4] W. Beullens, M.-S. Chen, S.-H. Hung, M. Kannwischer, B. Peng, C.-J. Shih, and B.-Y. Yang. Oil and Vinegar: Modern parameters and implementations.



**From MCE
to MEDS**

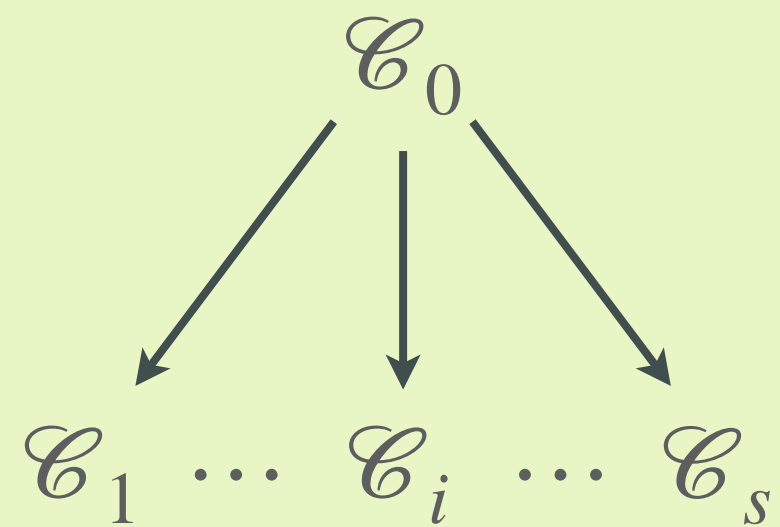
naive approach



1

multiple pk

[1]



provide s public keys, $b \in \{0, \dots, s\}$
response is isometry $\mathcal{C}_b \rightarrow \tilde{\mathcal{C}}$

2

fix weight

[2]

- generate $\mathcal{C}_0 \rightarrow \tilde{\mathcal{C}}$ from seed
- respond to $b = 0$ with seed
- response much cheaper!



adjust probability so that
 $b = 0$ appears more

[1] L. De Feo and S. D. Galbraith. SeaSign: Compact isogeny signatures from class group actions. EUROCRYPT 2019.

[2] W. Beullens, S. Katsumata, and F. Pintore. Calamari and Falafel: Logarithmic (linkable) ring signatures from isogenies and lattices. ASIACRYPT 2020.

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