Scalable total synthesis of saxitoxin and related natural products

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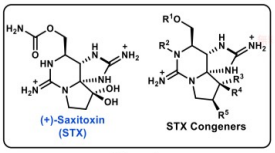
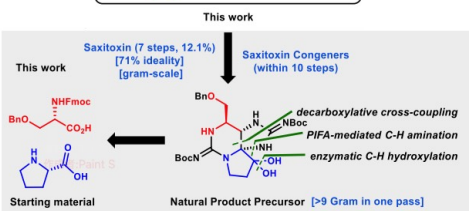
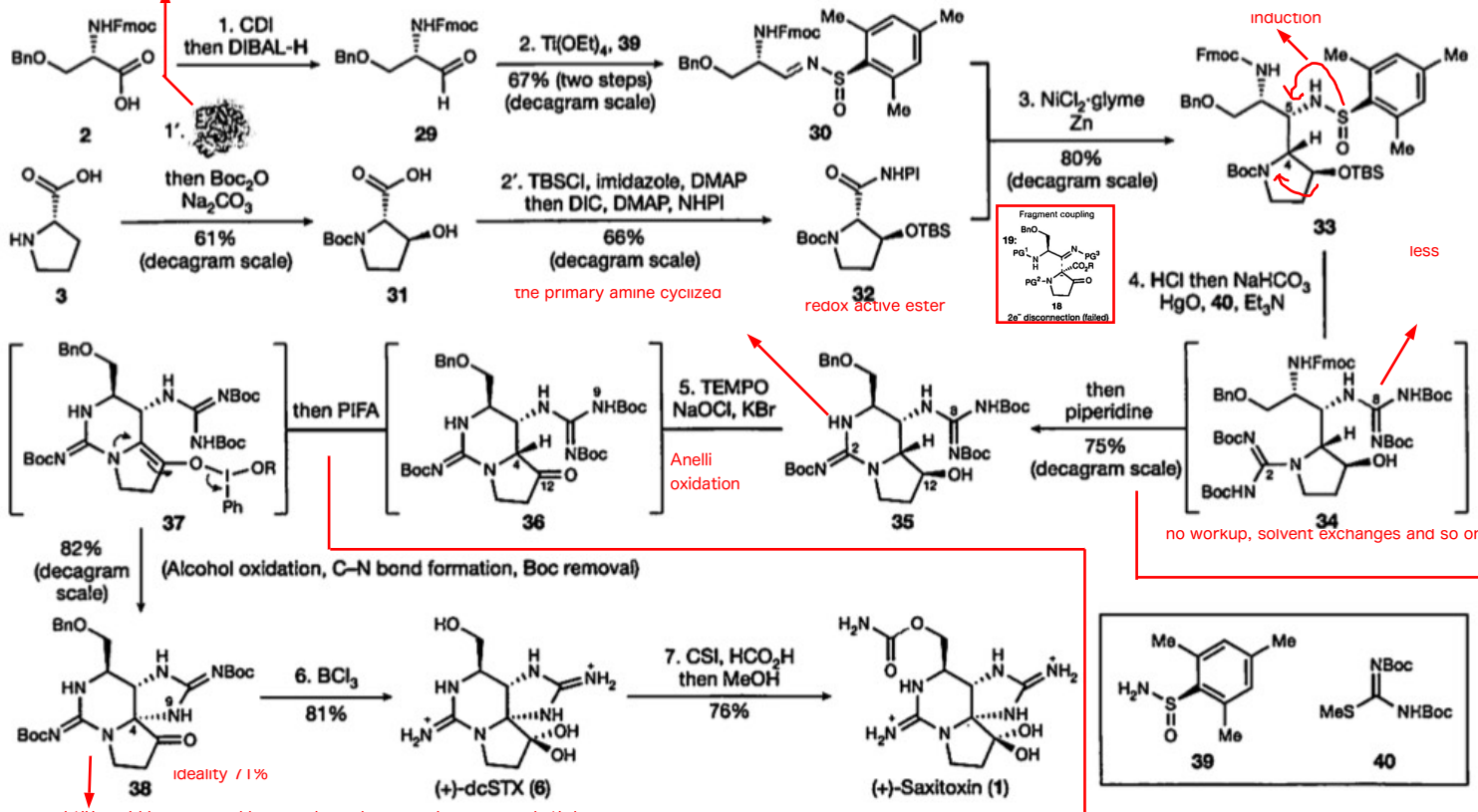




a fundamentally different approach to the STX challenge that maximizes skeletal-bond-forming events

non-haem, α-ketoglutarate-dependent engineered enzyme FrbA-KdlobB



>9 grams of 38 could be procured by one chemist in a single pass in only 3 days

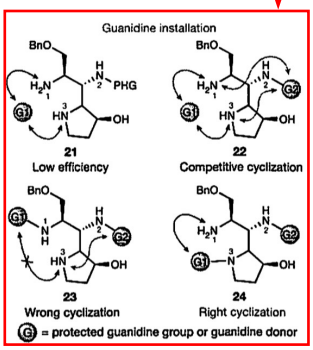
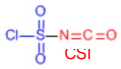
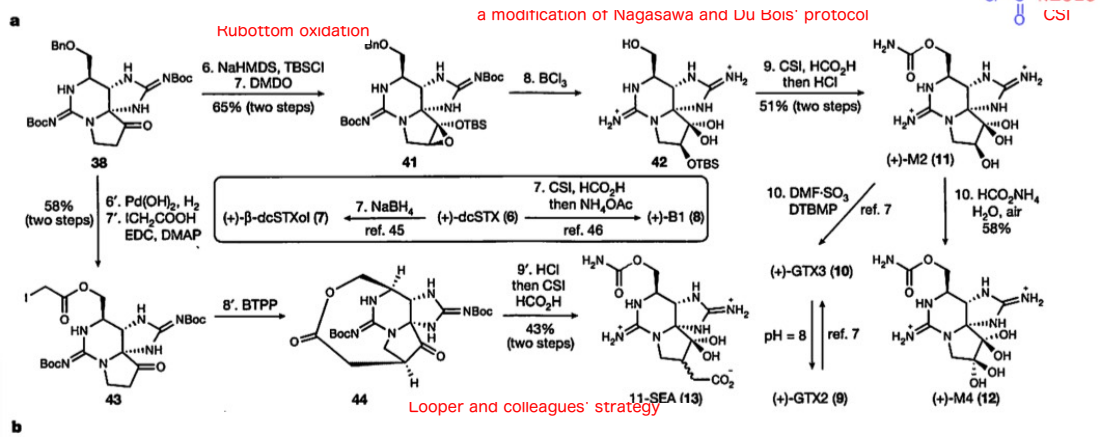
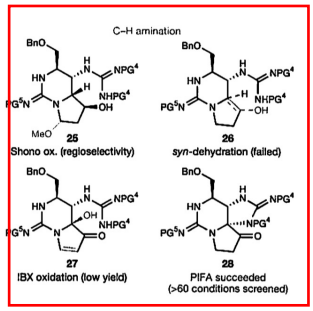


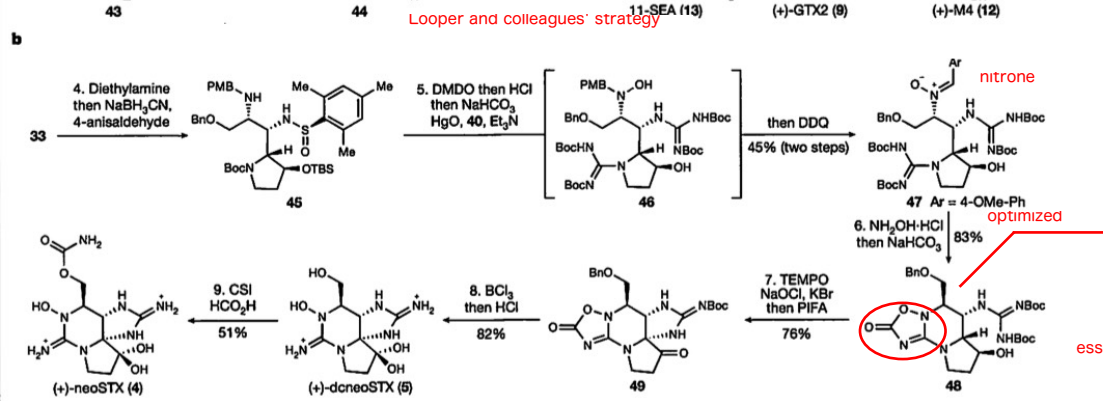
Fig. 2 | Short, scalable, chemoselective total synthesis of STX.

a modification of Nagasawa and Du Bois' protocol

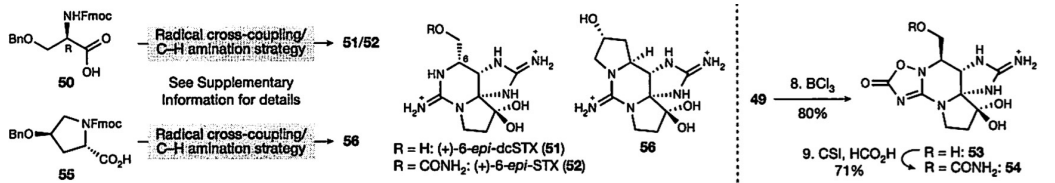








essential to mask the sensitive guanidine and N-hydroxy

Fig. 3 | Divergent access to STX-related natural products. a, From the common

11 natural products prepared or formally accessible)