

SPLENDID MORITA
EQUIVALENCE



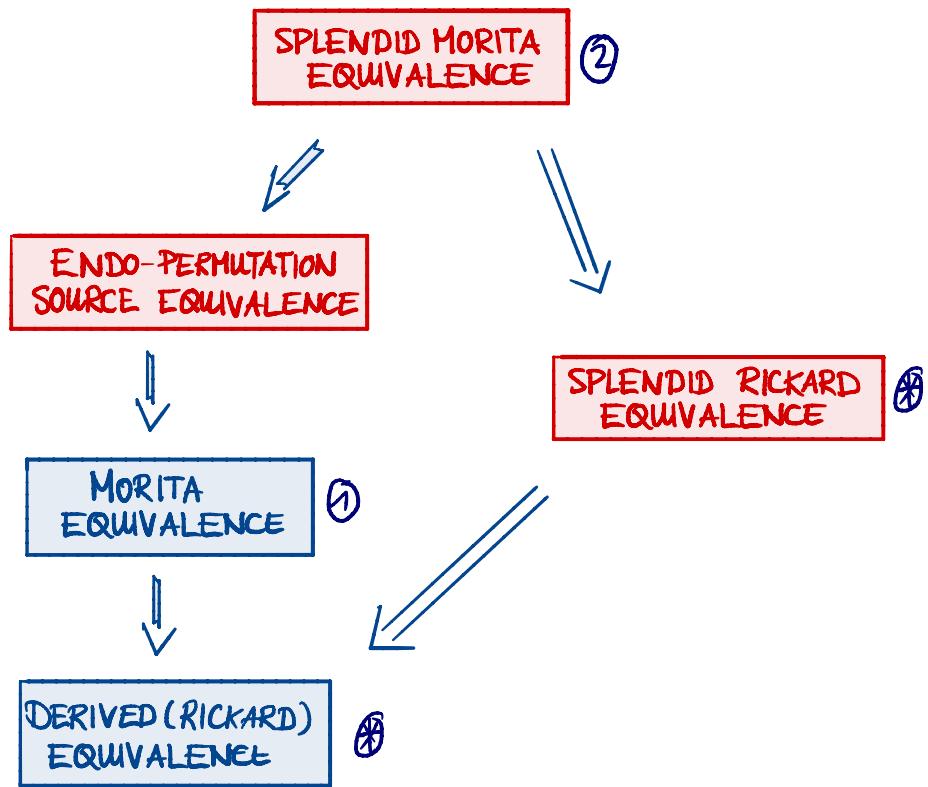
ENDO-PERMUTATION
SOURCE EQUIVALENCE



MORITA
EQUIVALENCE

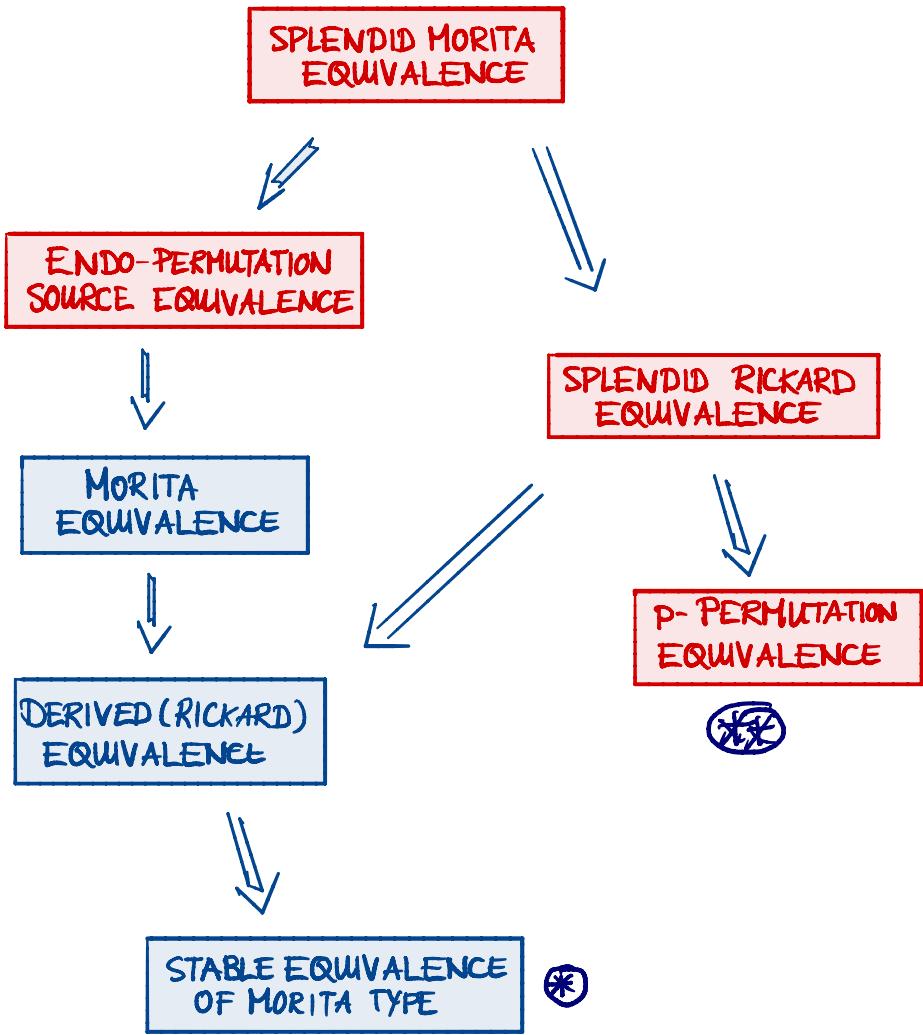


IN RED: involve (p -)permutation modules



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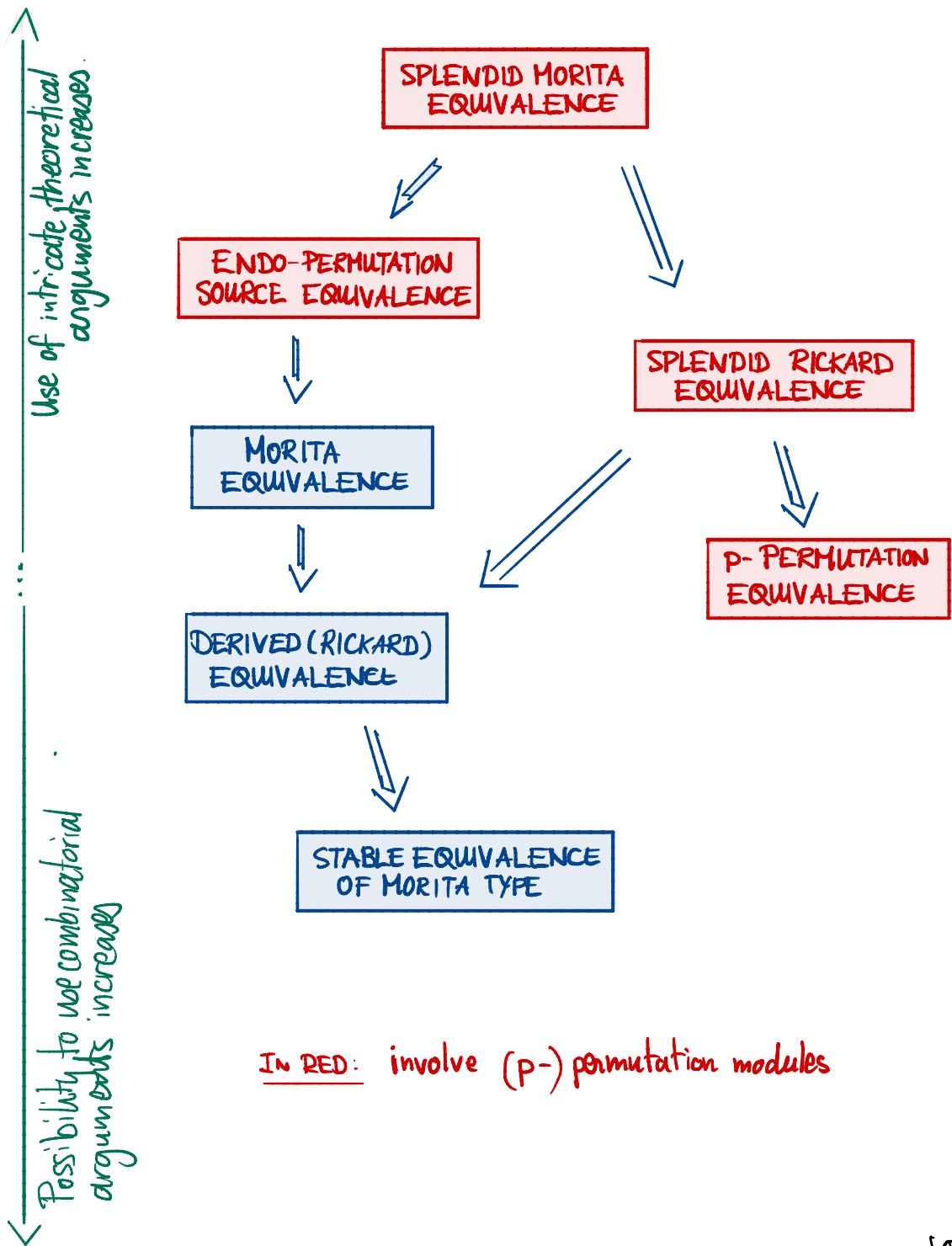
\oplus Derived category versions of ① and ②:
replace modules by complexes.

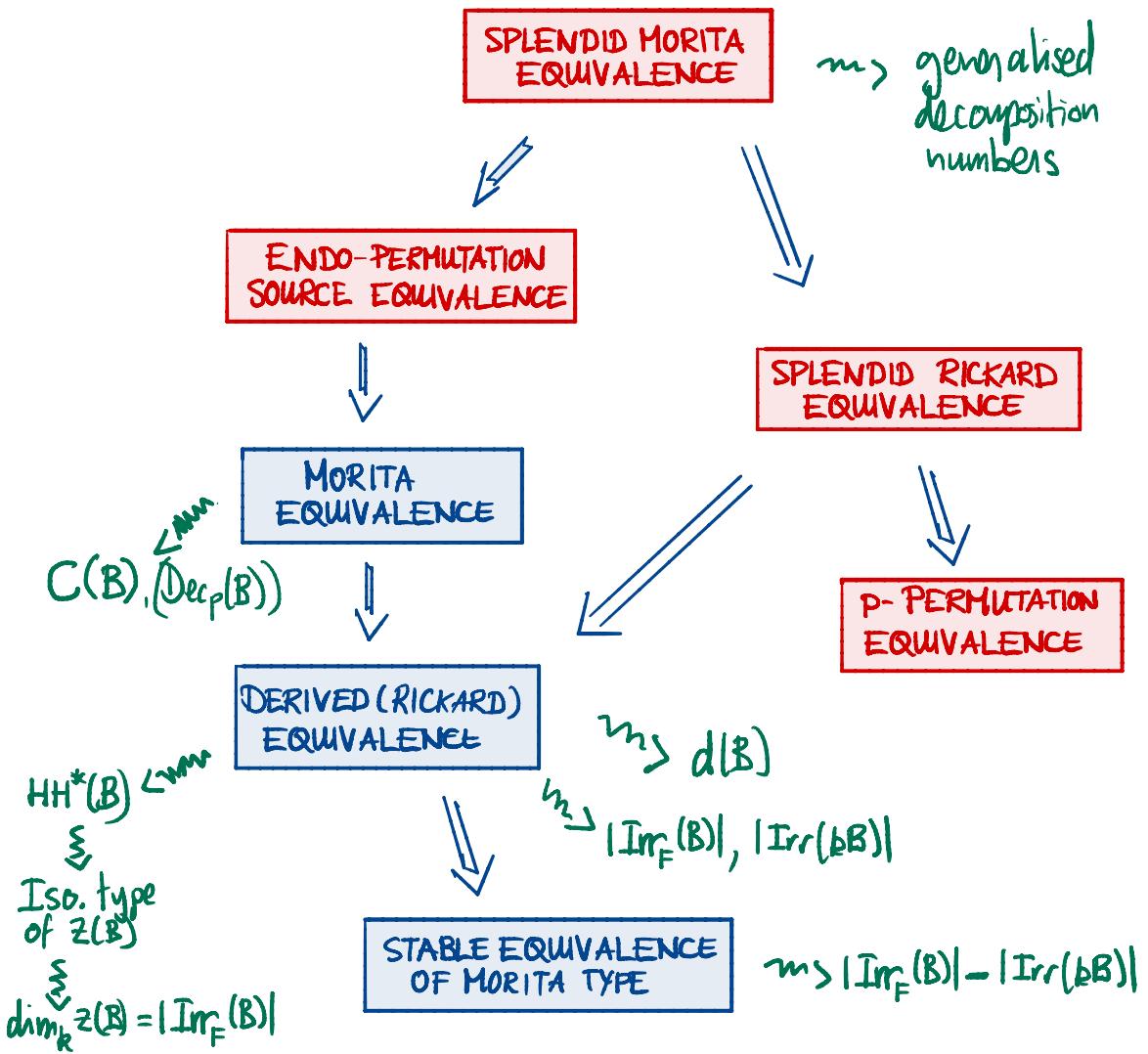


IN RED: involve (p-)permutation modules

⊛ Modify DEF^N of a Morita Equiv. :
 $M \otimes_B N \cong A \oplus (\text{proj}) \quad N \otimes_A M \cong B \oplus (\text{proj})$

⊛ See Bernhard's talk !





IN RED: involve (P-)permutation modules

Many open problems in modular representation theory are concerned with the influence of the structure of the defect groups on the structure of the block. E.g.

Brauer's $b(B)$ -conjecture

Let $B \in Bl_p(kG)$ with defect group D . Then $\text{Irr}(B) \leq |D|$.

Broué's abelian defect group conjecture

Let $B \in Bl_p(kG)$ be a block with an abelian defect group. Then B and its Brauer correspondent in $N_G(D)$ are derived (Rickard) equivalent.