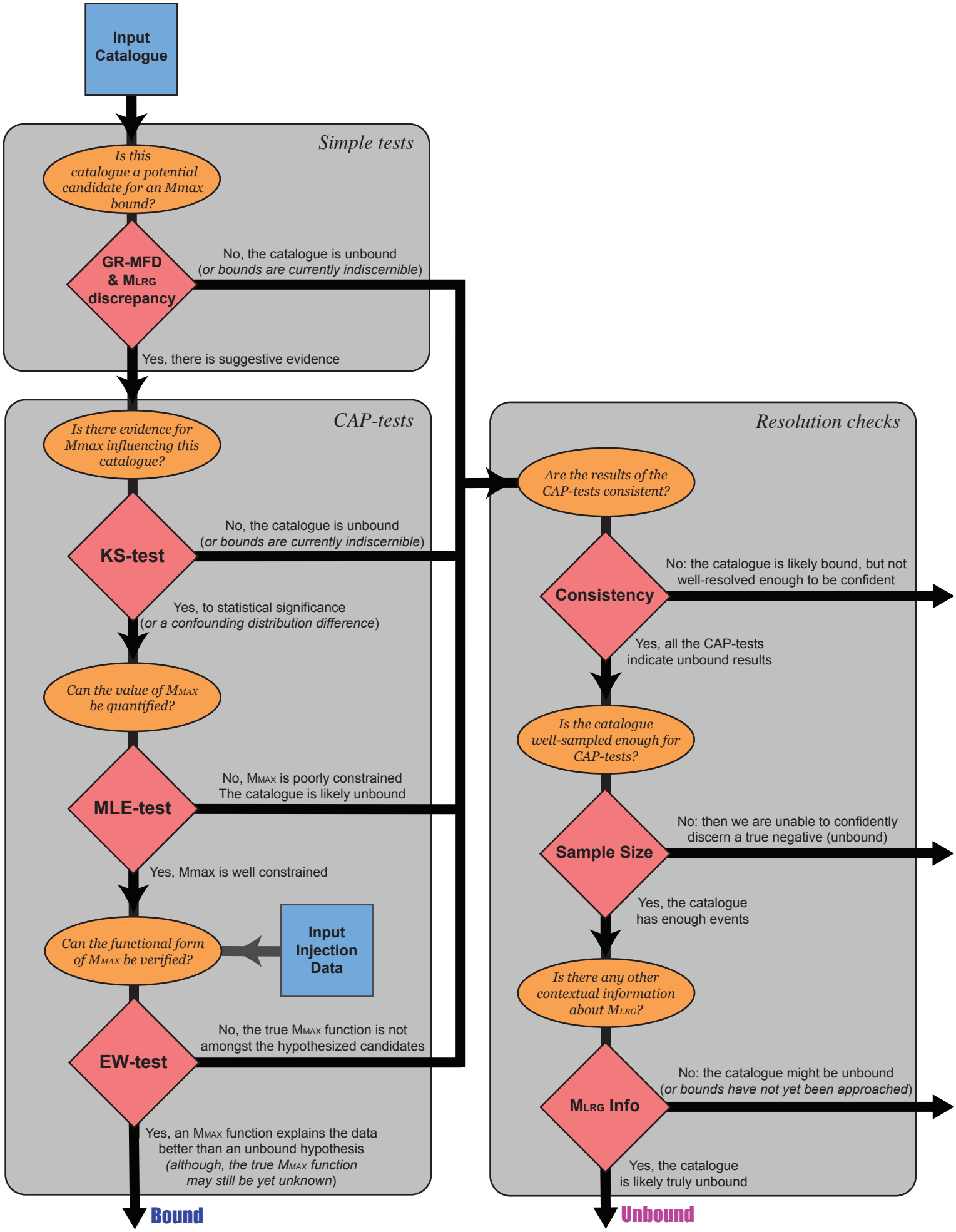
Input Catalogue
Simple tests
Is this catalogue a potential candidate for an Mmax bound?
GR-MFD & MLRG discrepancy
No, the catalogue is unbound (or bounds are currently indiscernible)
Yes, there is suggestive evidence
CAP-tests
Is there evidence for Mmax influencing this catalogue?
KS-test
No, the catalogue is unbound (or bounds are currently indiscernible)
Yes, to statistical significance (or a confounding distribution difference)
Can the value of MMAX be quantified?
MLE-test
No, MMAX is poorly constrained The catalogue is likely unbound
Yes, Mmax is well constrained
Can the functional form of MMAX be verified?
Input Injection Data
EW-test
No, the true MMAX function is not amongst the hypothesized candidates
Yes, an MMAX function explains the data better than an unbound hypothesis (although, the true MMAX function may still be yet unknown)
Bound
Resolution checks
Are the results of the CAP-tests consistent?
Consistency
No: the catalogue is likely bound, but not well-resolved enough to be confident
Yes, all the CAP-tests indicate unbound results
Is the catalogue well-sampled enough for CAP-tests?
Sample Size
No: then we are unable to confidently discern a true negative (unbound)
Yes, the catalogue has enough events
Is there any other contextual information about MLRG?
MLRG Info
No: the catalogue might be unbound (or bounds have not yet been approached)
Yes, the catalogue is likely truly unbound
Unbound