

1 Normalize

$$\begin{aligned} & ((\lambda a.(\lambda b.b\ b)\ (\lambda b.b\ b))\ b)\ ((\lambda c.(c\ b))\ (\lambda a.a)) \rightarrow_{\beta} ((\lambda b.b\ b)\ (\lambda b.b\ b))\ ((\lambda c.(c\ b))\ (\lambda a.a)) \rightarrow_{\beta} \\ & ((\lambda b.b\ b)\ (\lambda b.b\ b))((\lambda a.a)\ b) \rightarrow_{\beta} ((\lambda b.b\ b)\ (\lambda b.b\ b))\ b \end{aligned}$$

2 SKK

$$\begin{aligned} & ((\lambda x\ y\ z.x\ z\ (y\ z))\ (\lambda x\ y.x))\ (\lambda x\ y.x) \rightarrow_{\alpha} ((\lambda x\ y\ z.x\ z\ (y\ z))\ (\lambda a\ b.a))\ (\lambda m\ p.m) \rightarrow_{\beta} \\ & ((\lambda y\ z.(\lambda a\ b.a)\ z\ (y\ z))\ (\lambda m\ p.m)) \rightarrow_{\beta} (\lambda z.(\lambda a\ b.a)\ z\ ((\lambda m\ p.m)\ z)) \rightarrow_{\beta} \lambda z.z \end{aligned}$$