

CONCLUSION

We have demonstrated a novel four-component palladium catalysed 1,3-dipolarcycloaddition / allene insertion / nucleophile incorporation cascade for the synthesis of pyrroldinyl isoquinolines. A plausible mechanism for the four-component cascade involved the generation of intermediate azomethine ylides which undergo cycloaddition through an endo transition state prior to incorporation of the allene. The four-component cascades result in a substantial increase in molecular complexity with construction of five new bonds, two rings and four stereocenters.