

## Supplementary 1

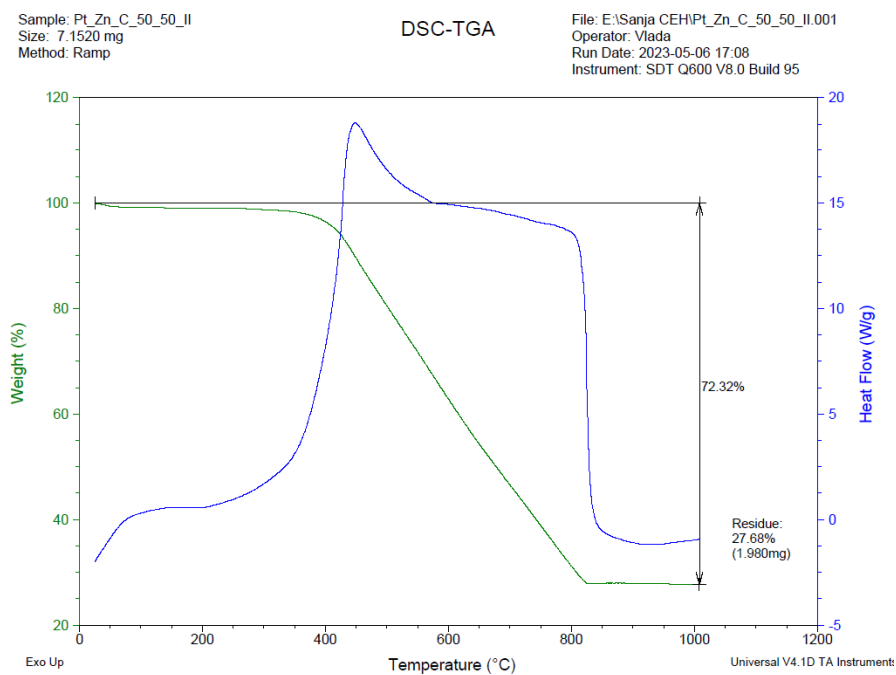


Fig S1. TGA curve for PtZn/C catalyst

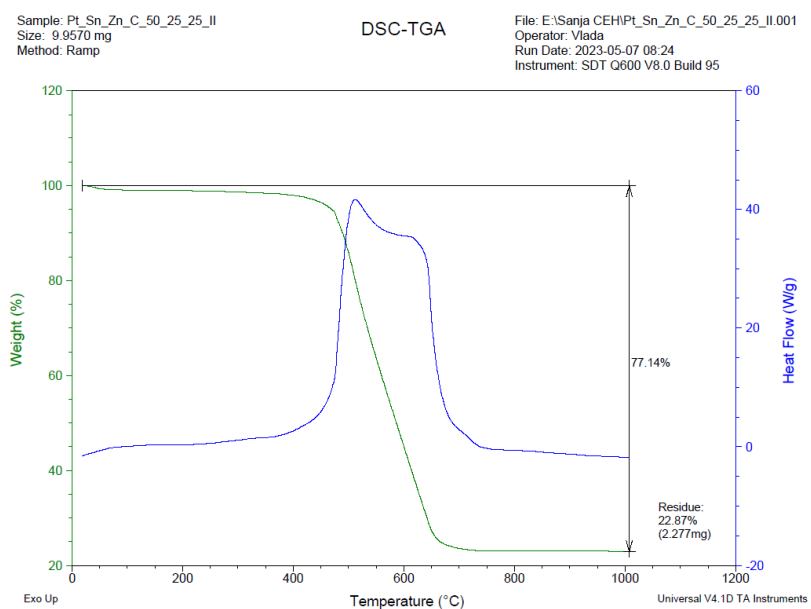


Fig S2. TGA curve for PtSnZn/C catalyst

Supplementary 2

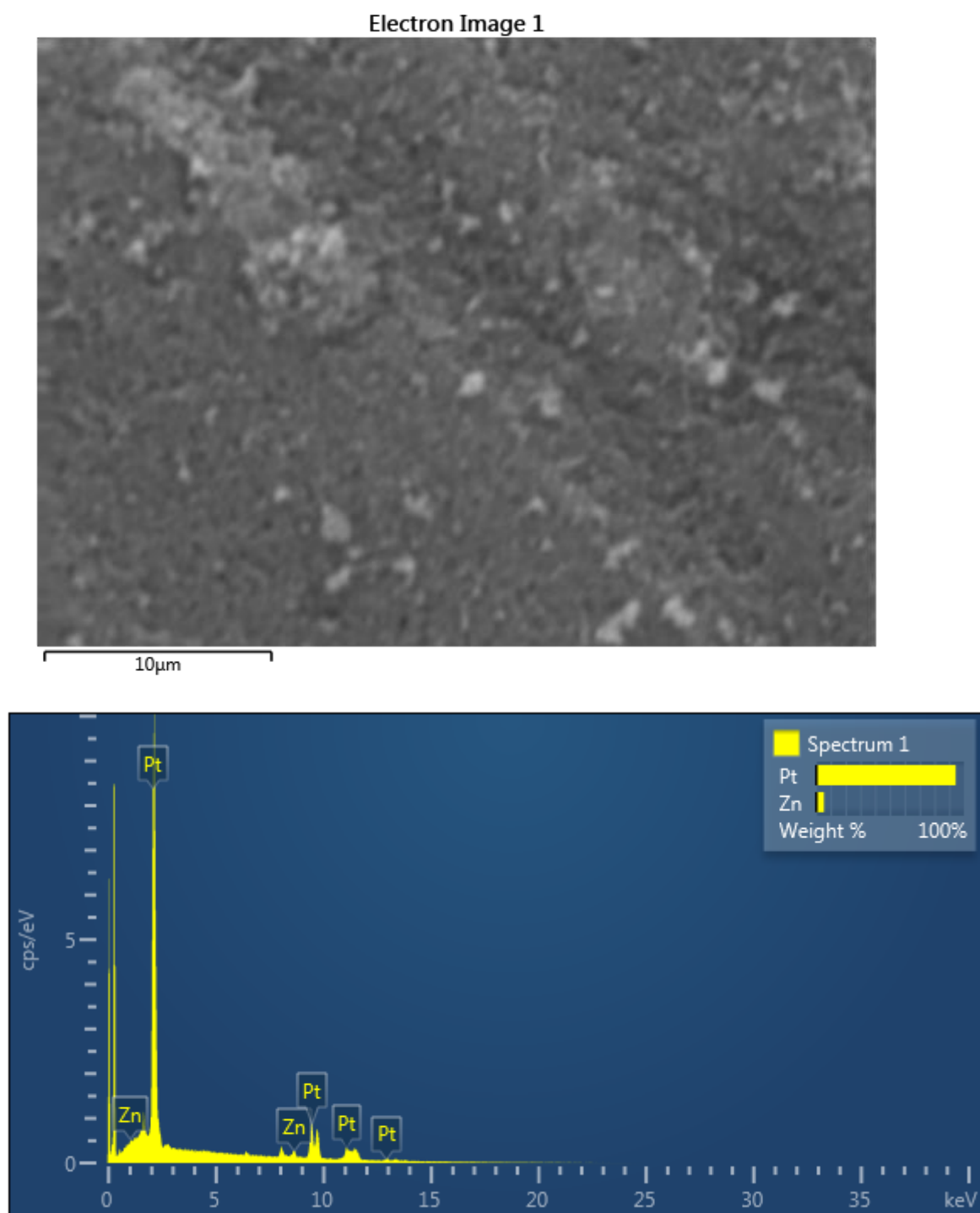


Fig S3. EDS analysis of PtZn/C catalysts

Electron Image 1

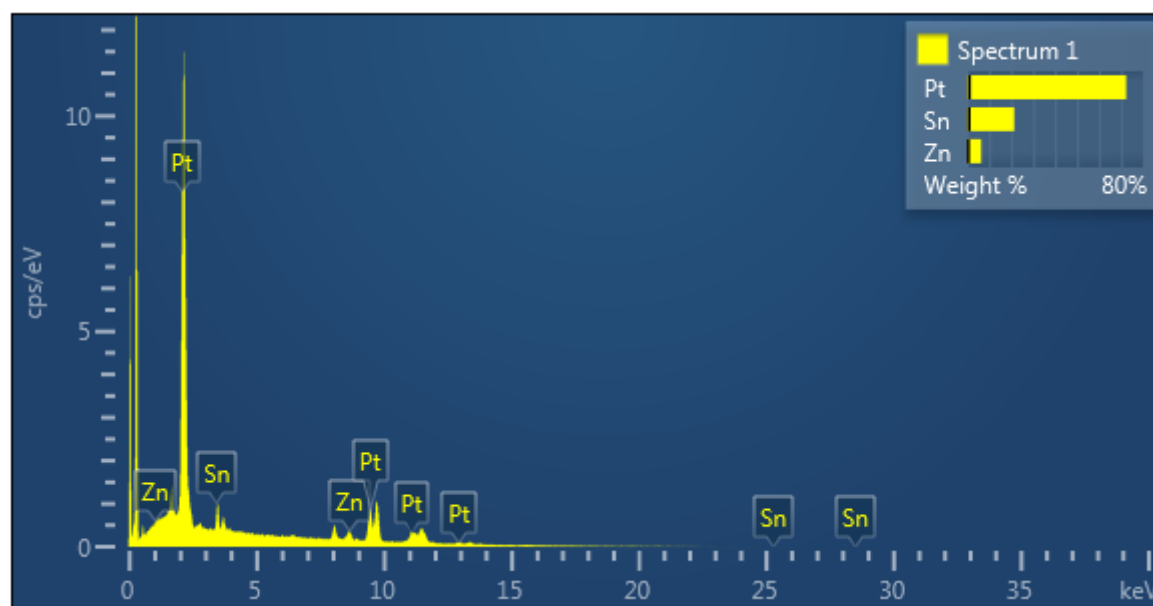
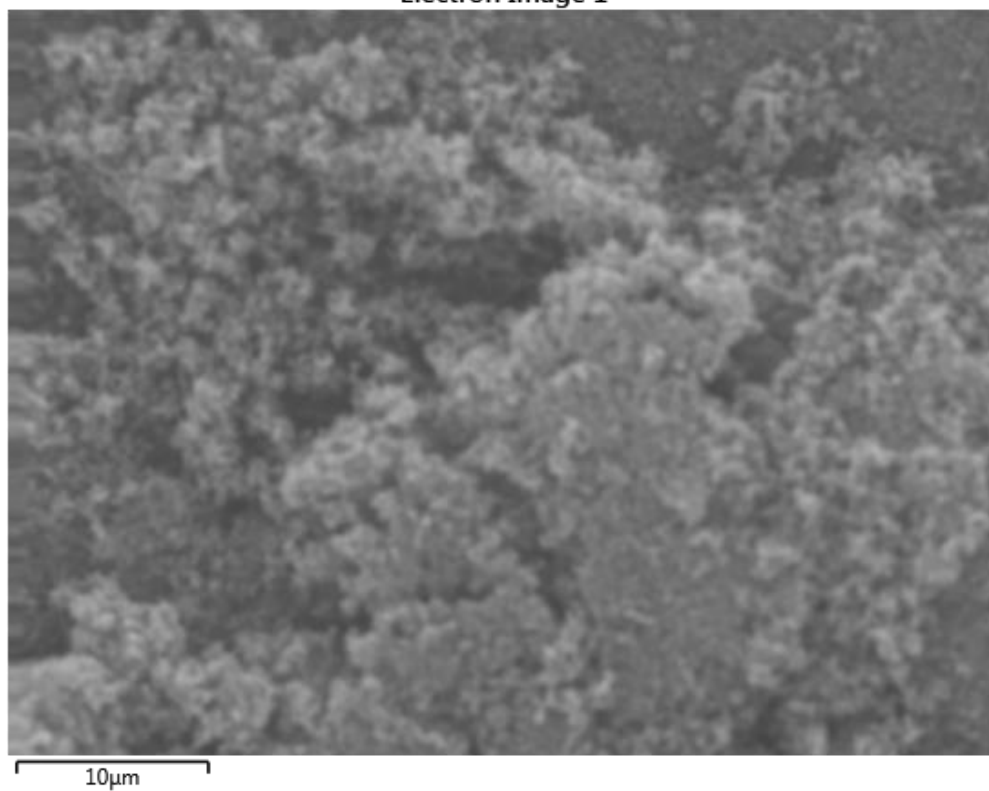


Fig S4. EDS analysis of PtSnZn/C catalysts