

## Supporting Information

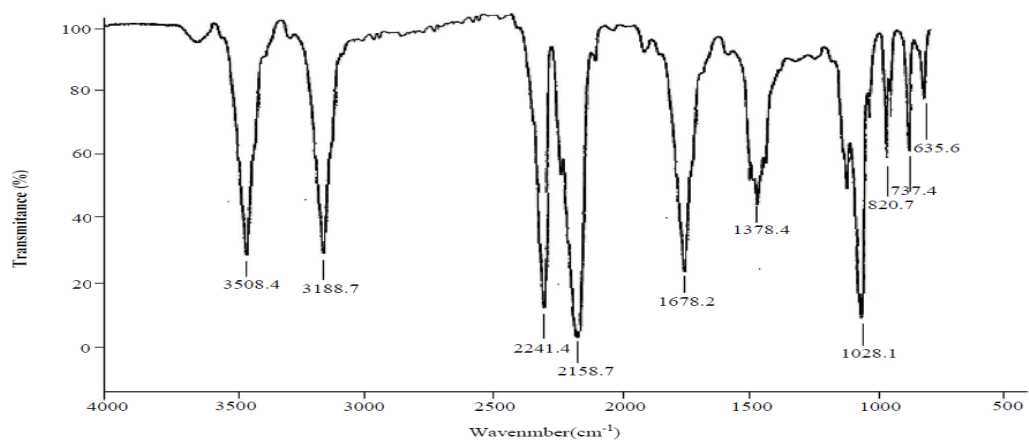
*J. Chem. Metrol.* X:X (202X) XX-XX

### Identification, separation and mass spectral characterization of degradants in Cariprazine HCl by LC-MS/MS/QTOF

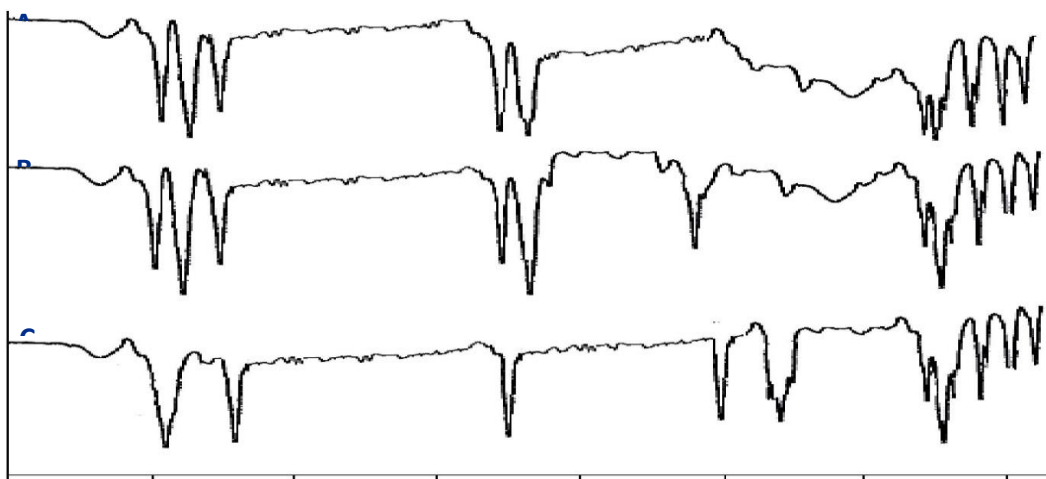
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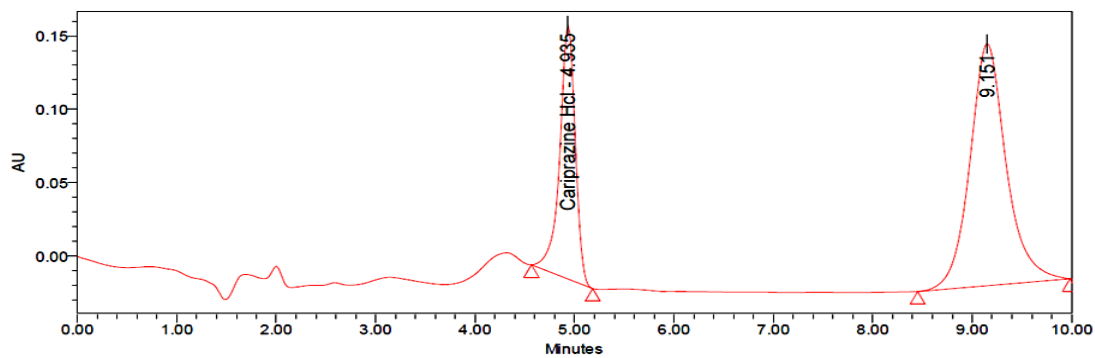
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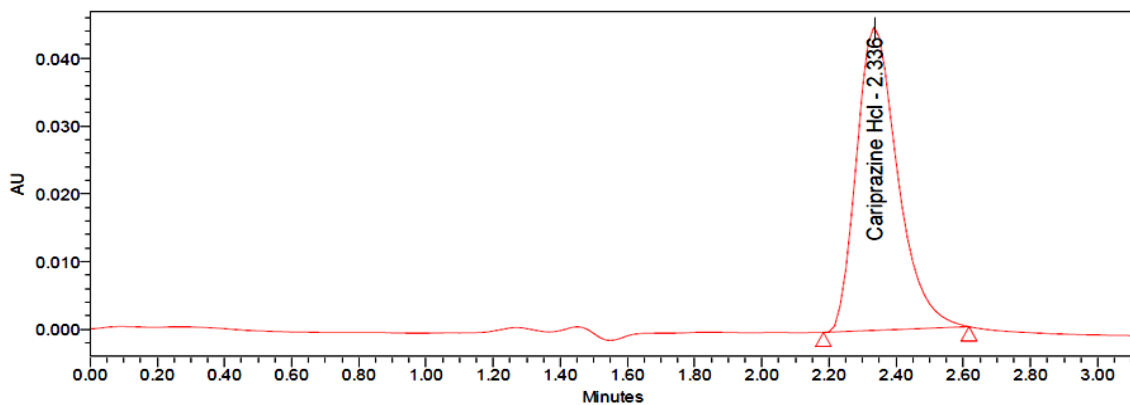
**Figure S1:** IR spectrum of Cariprazine HCl



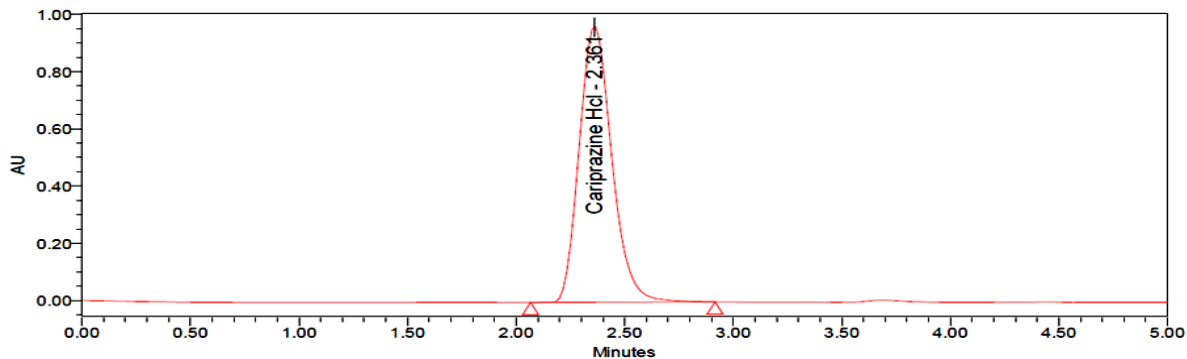
**Figure S2:** IR Overlay spectrum



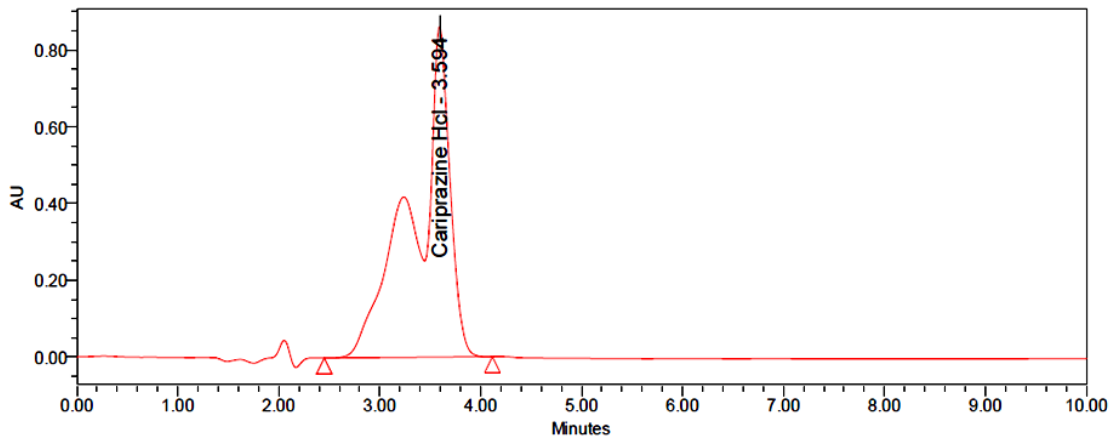
**Figure S3:** Chromatogram of trial-1



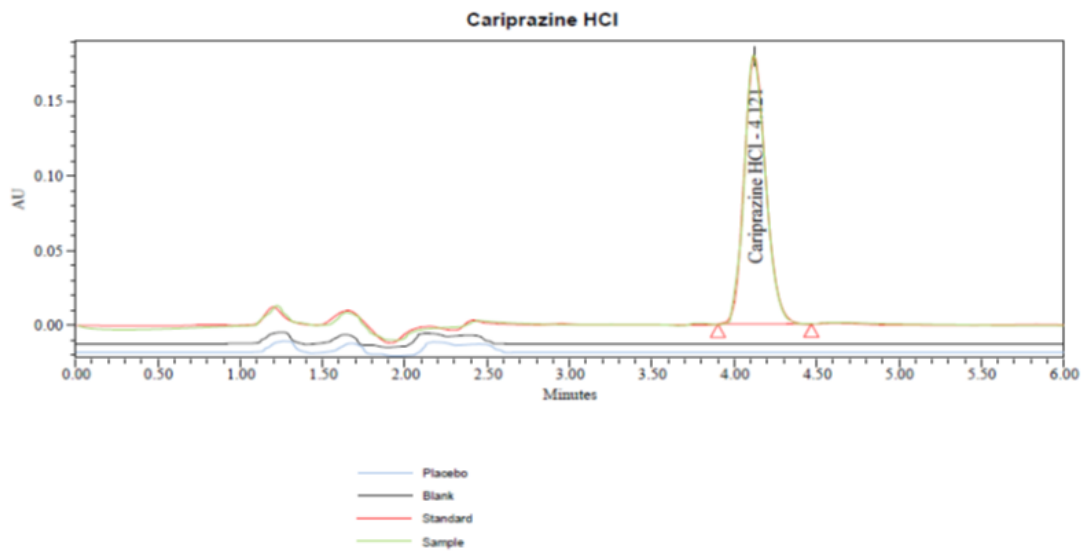
**Figure S4:** Chromatogram of trial-2



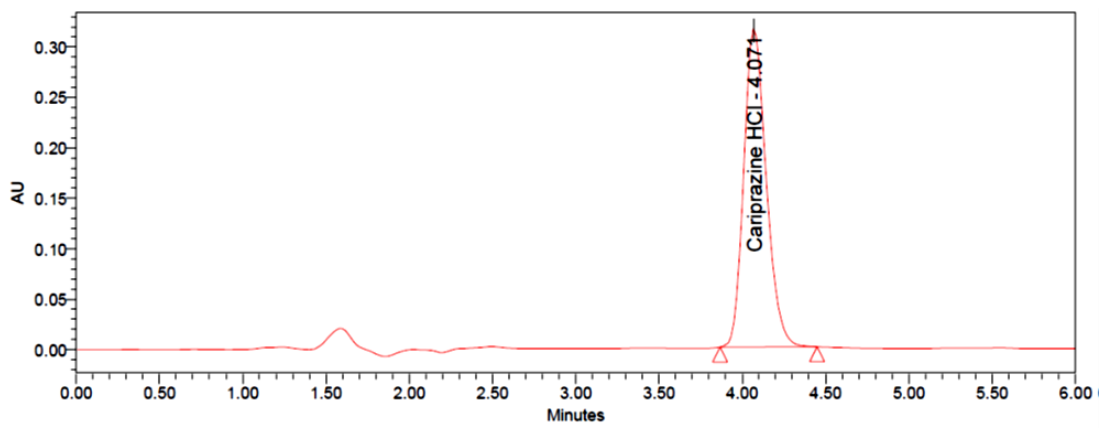
**Figure S5:** Chromatogram of trial-3



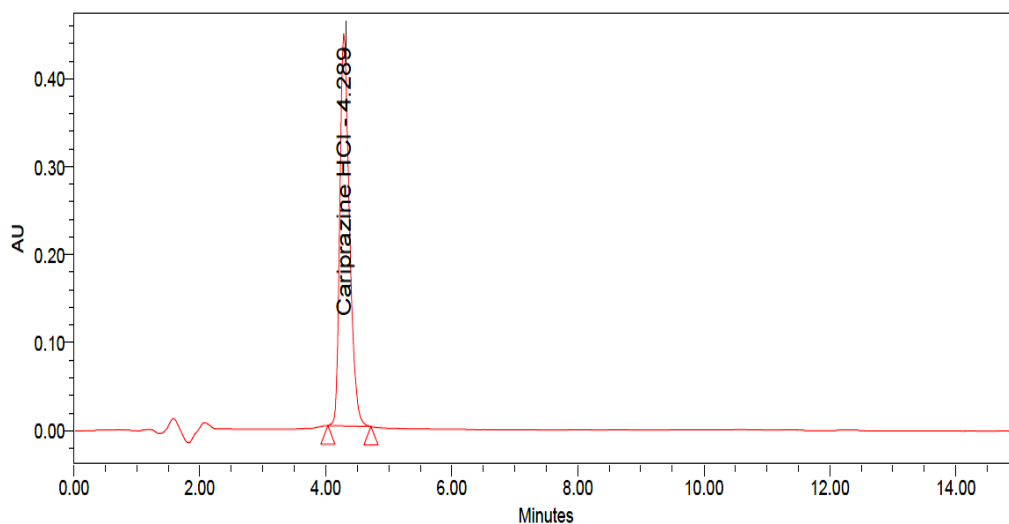
**Figure S6:** Chromatogram of trial-4



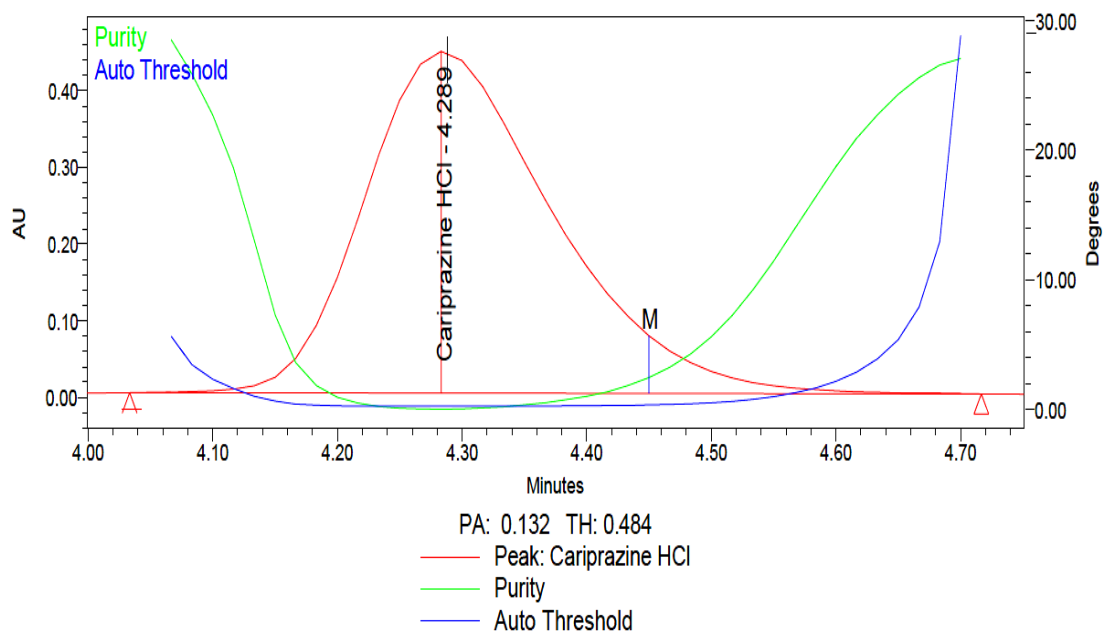
**Figure S7:** A typical specificity chromatogram



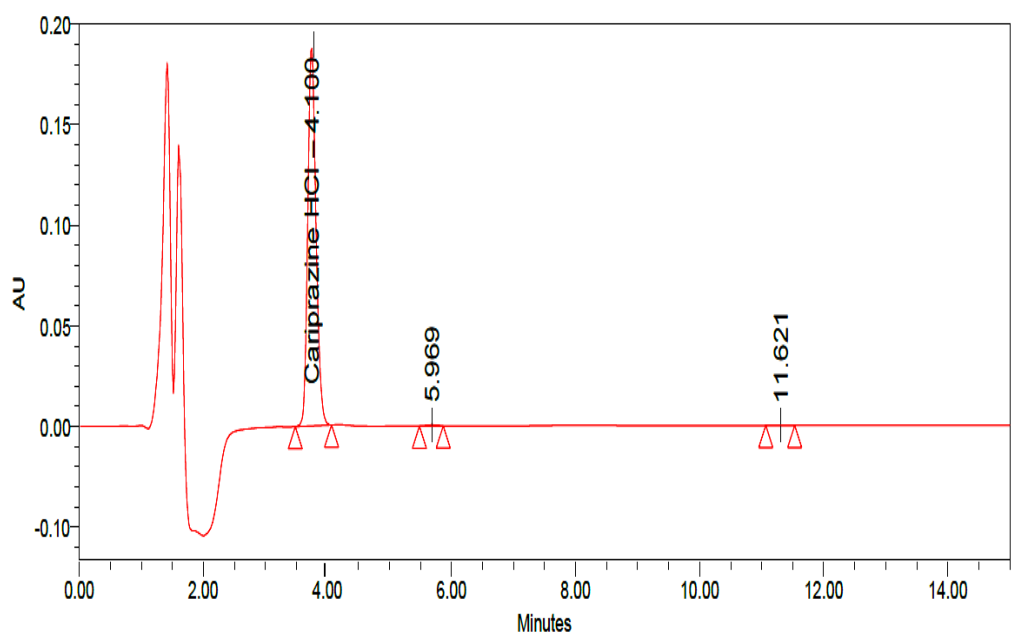
**Figure S8:** Chromatogram of standard



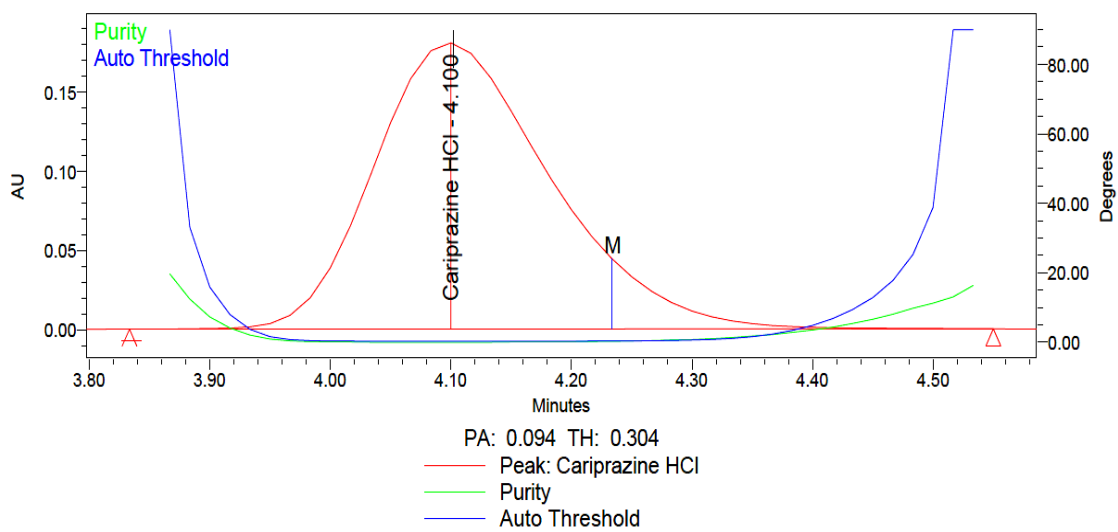
**Figure S9:** Chromatogram of control degradation



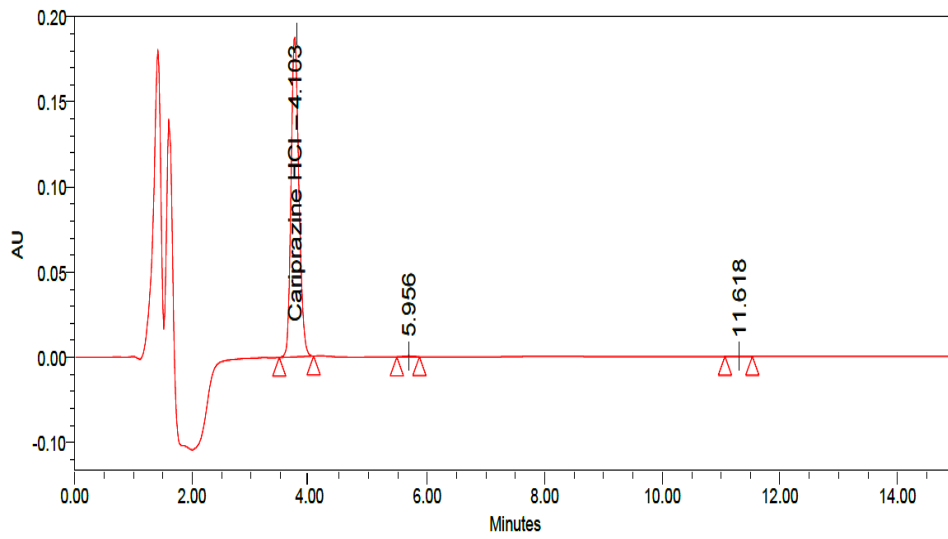
**Figure S10:** Purity plot of Cariprazine HCl



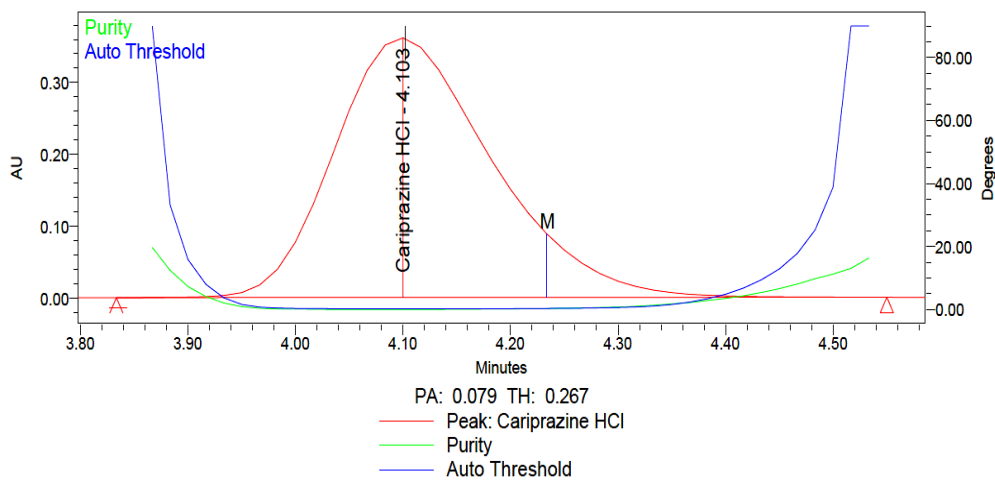
**Figure S11 :** Chromatogram of acid degradation



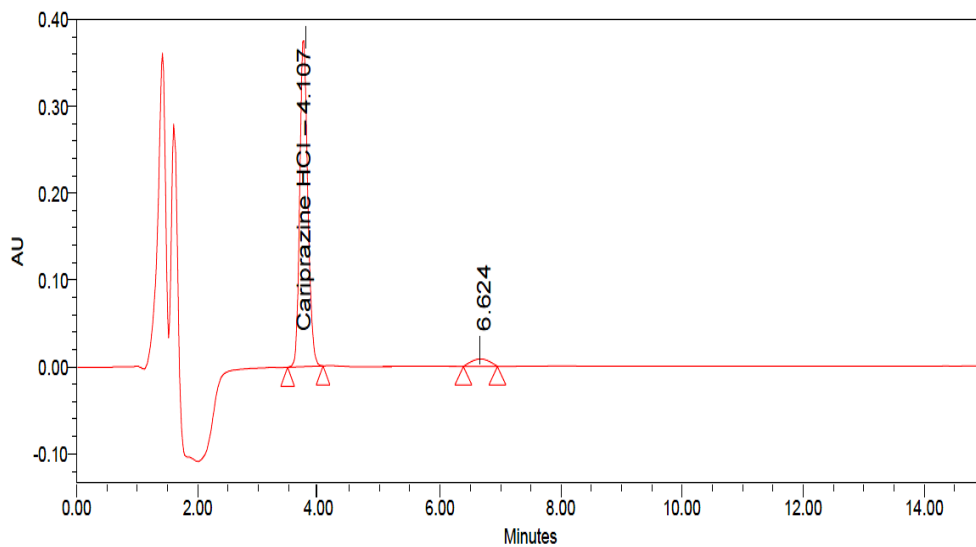
**Figure S12 :** Purity plot of Cariprazine HCl of acid degradation



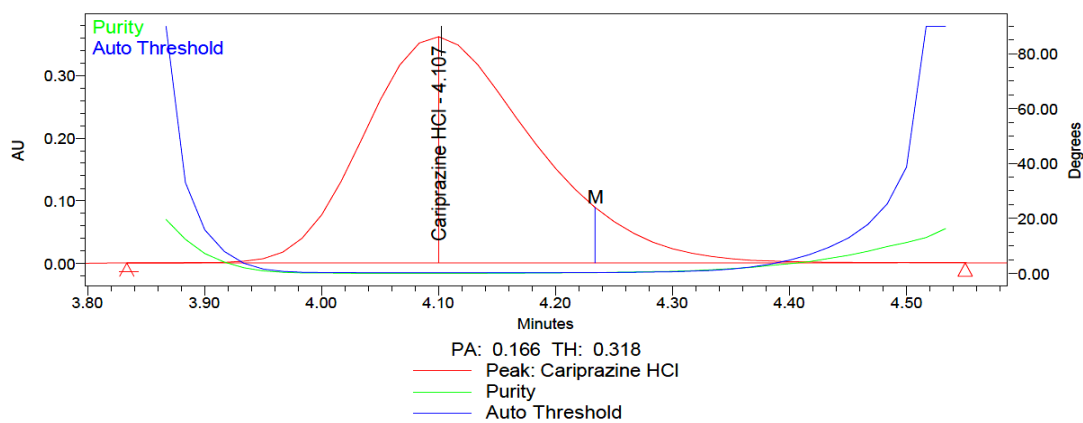
**Figure S13:** Chromatogram of alkali degradation



**Figure S14:** Purity plot of Cariprazine HCl of alkali degradation

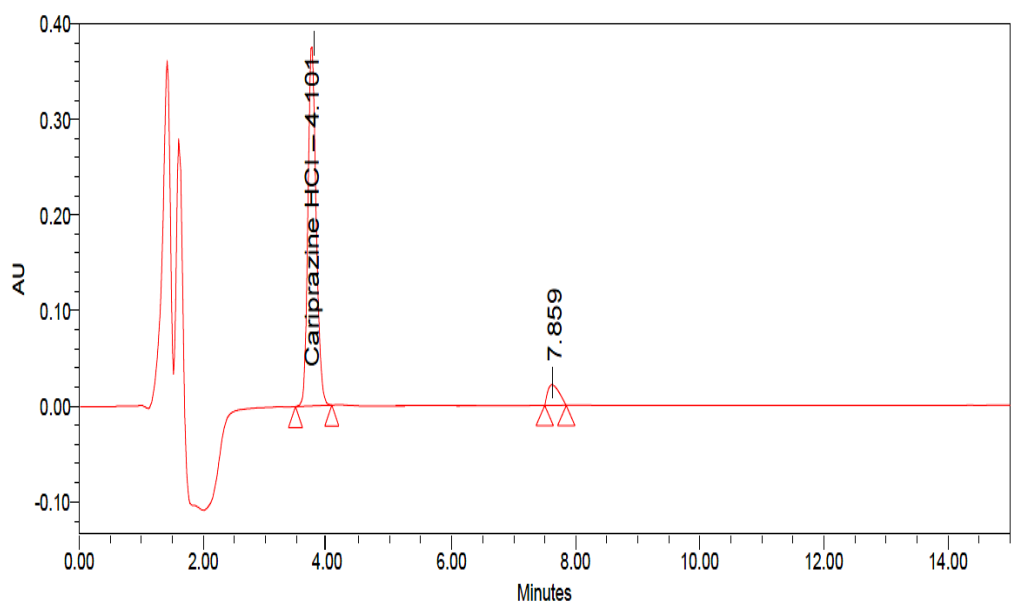


**Figure S15:** Chromatogram of peroxide degradation

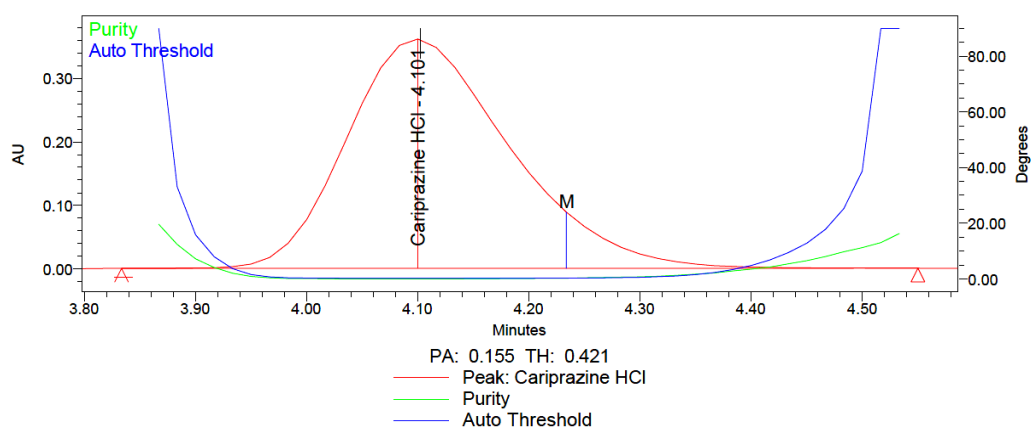


**Figure S16:** Purity plot of Cariprazine HCl of peroxide degradation

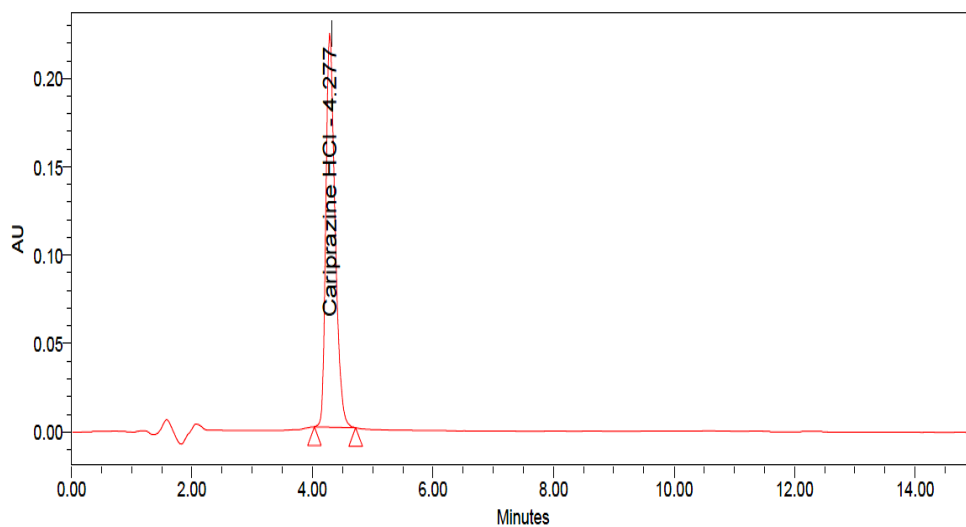




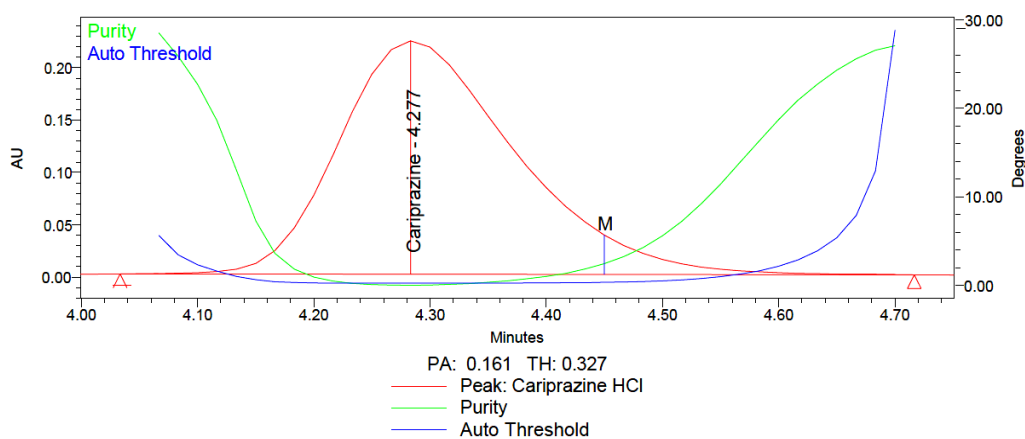
**Figure S17:** Chromatogram of reduction degradation



**Figure S18:** Purity plot of Cariprazine HCl of reduction degradation



**Figure S19:** Chromatogram of thermal degradation



**Figure S20:** Purity plot of Cariprazine HCl of thermal degradation