A PLC based Semi-automated Extraction Chromatographic Separation system for the isolation of medical grade No-carrier-added Lutetium-177 for Targeted Cancer Therapy

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Table S1 : Determination of organic carbon content in NCA $^{177}LuCl_3$ using chemical oxygen demand (COD) analysis

S. No	COD value
1	4 mg/L
2	6 mg/L
Water (Blank)	6 mg/L

A chemical oxygen demand analysis was performed to determine the amount of total organic carbon content in the final product. Results obtained were same as that for blank measurement.

Figure S1 HPGe profile of NCA ^{177}Lu

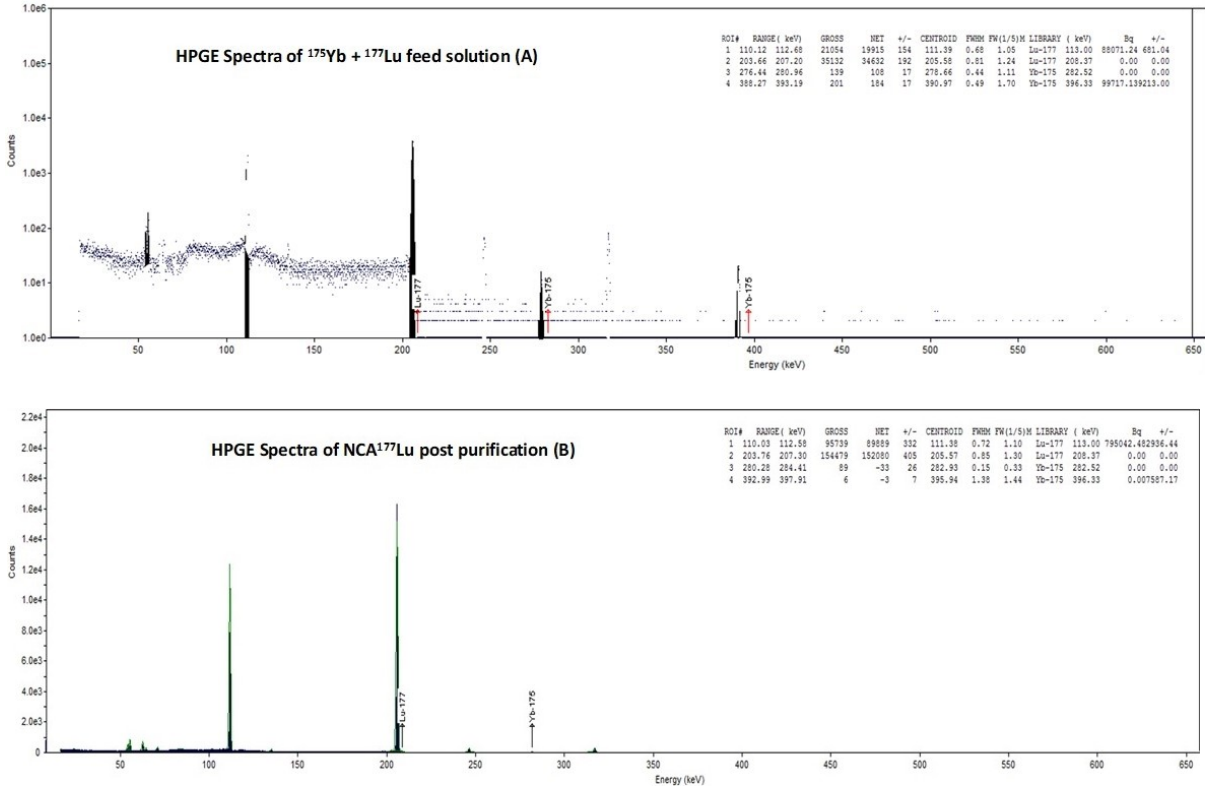
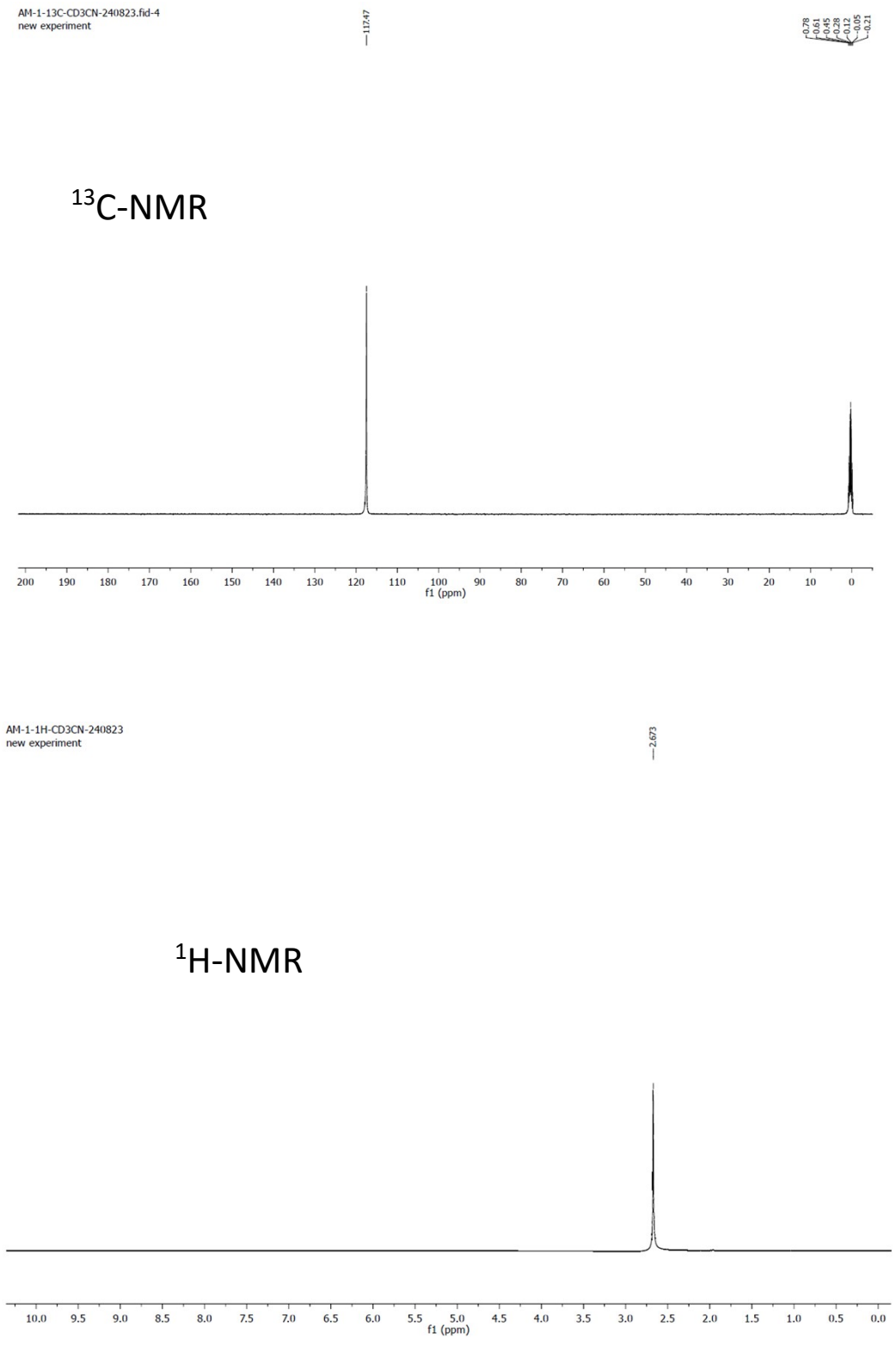


Figure S2: ^{1}H-NMR and ^{13}C-NMR (1100 scans) of decayed NCA ^{177}Lu sample* in CD_3CN (Determination of organic impurity)



*Sample used for NMR analysis corresponded to 0.925 GBq (25 mCi) of the total NCA $^{177}LuCl_3$ product separated from 50 mg of irradiated enriched 176Yb target. **No peaks from organic carbon and protons were observed.**

Figure S3 RCP determination of NCA $^{177}LuCl_3$ using Paper chromatography (PC), TLC and HPLC

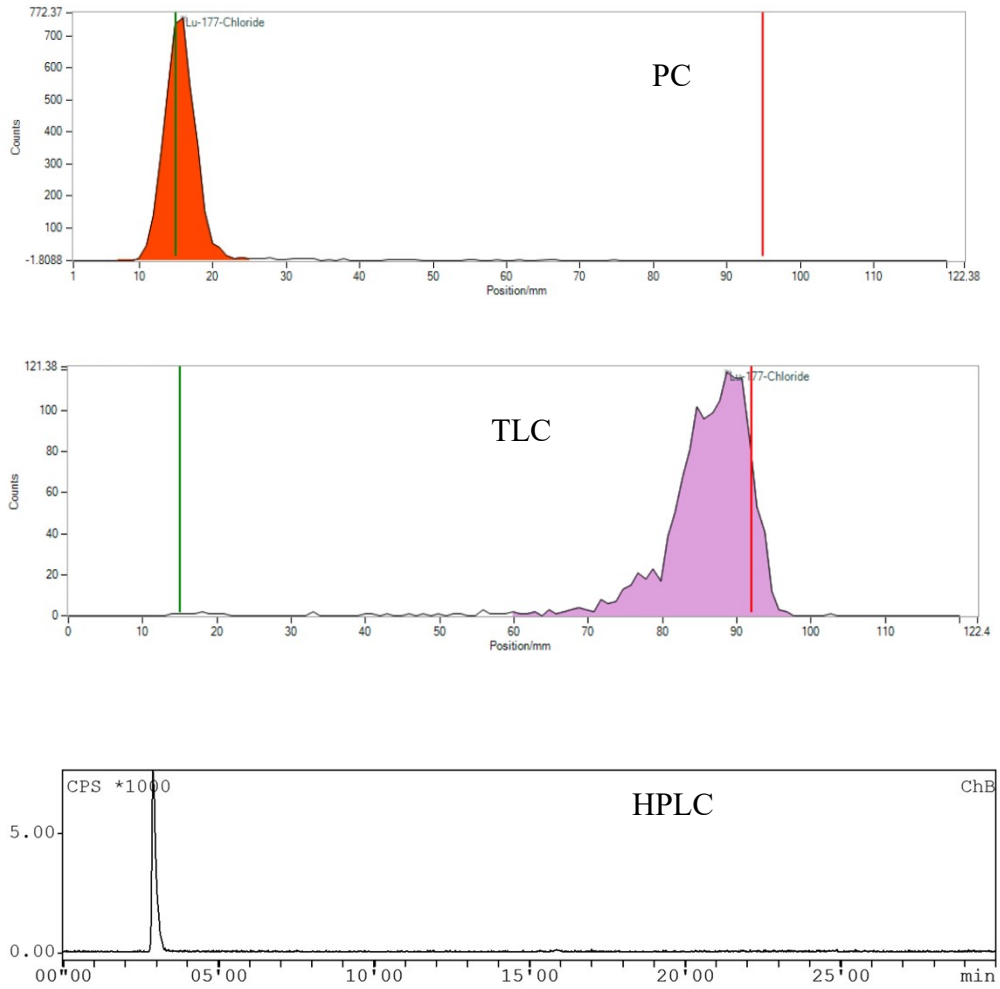
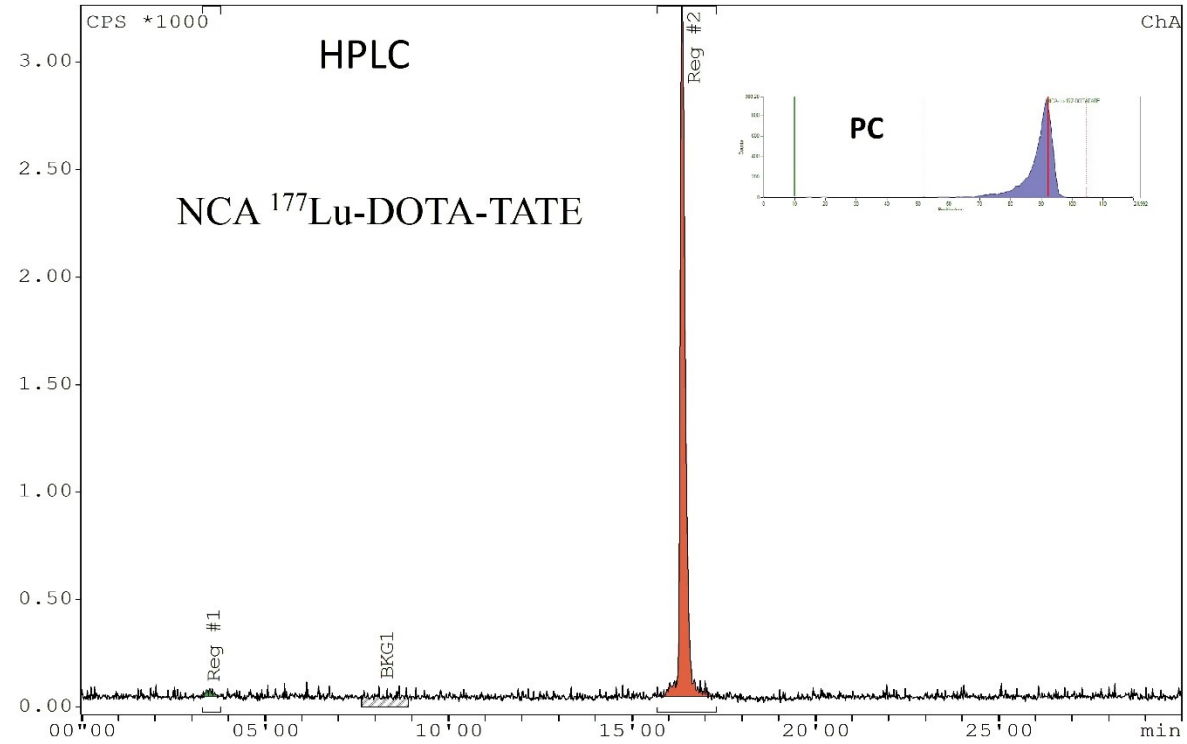


Figure S4 Radiochemical purity determination of NCA ^{177}Lu-DOTA-TATE and NCA ^{177}Lu-PSMA-617 by HPLC and PC (inset)



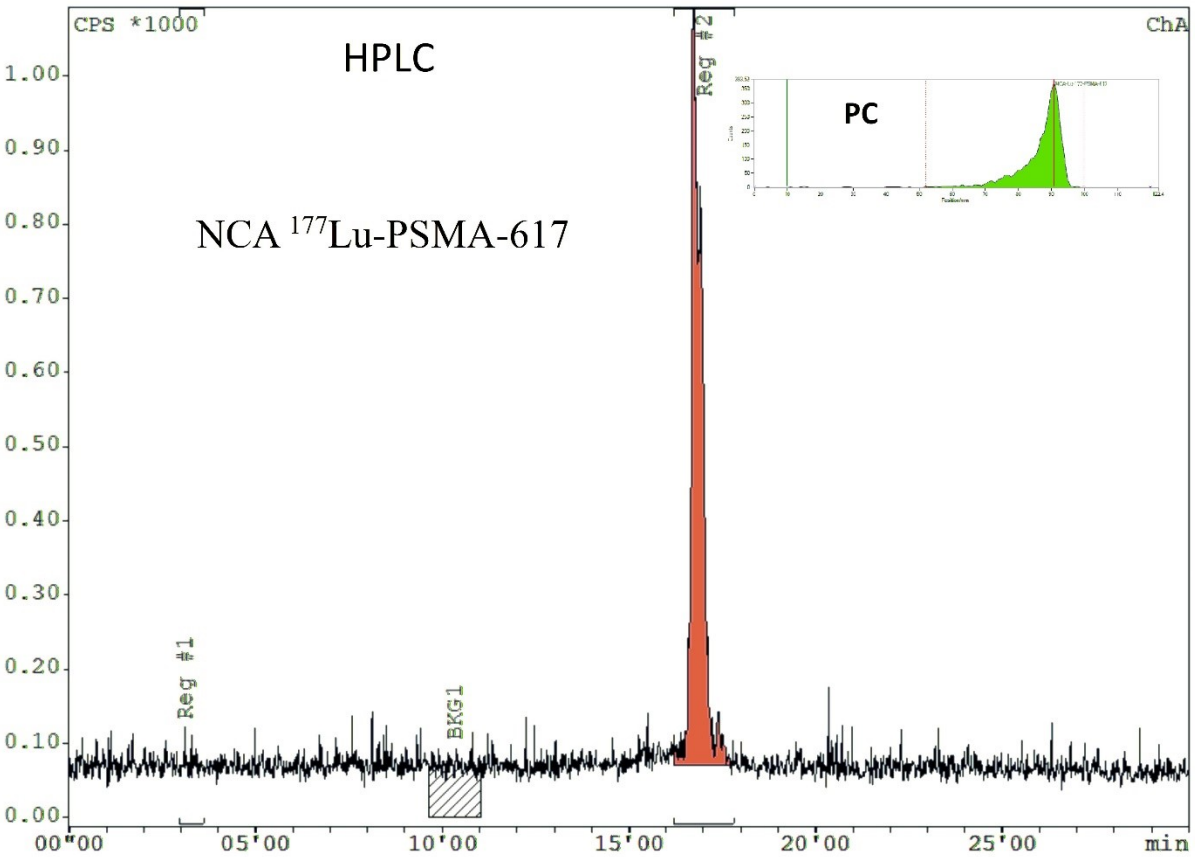


Figure S5 NCA ^{177}Lu-DOTA-TATE post-therapy scan in cancerous lesion of Meningioma patient (24 h p.i.) (5.5 GBq activity was injected)

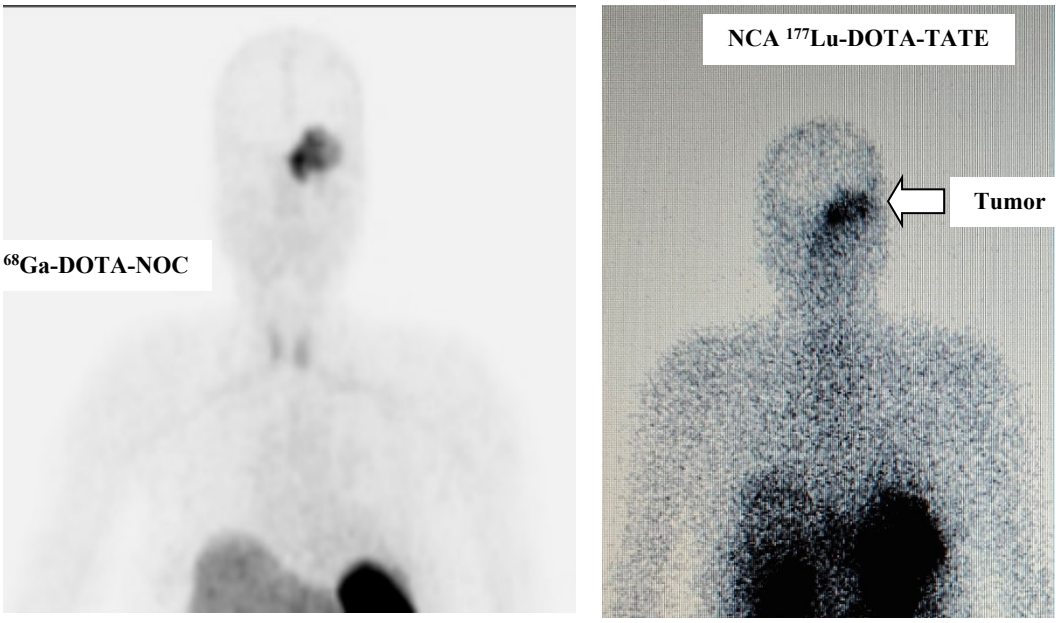


Figure S6 NCA ^{177}Lu-PSMA-617 post-therapy scan in metastatic prostatic adenocarcinoma patient (24 p.i.) (7.4 GBq activity was injected)