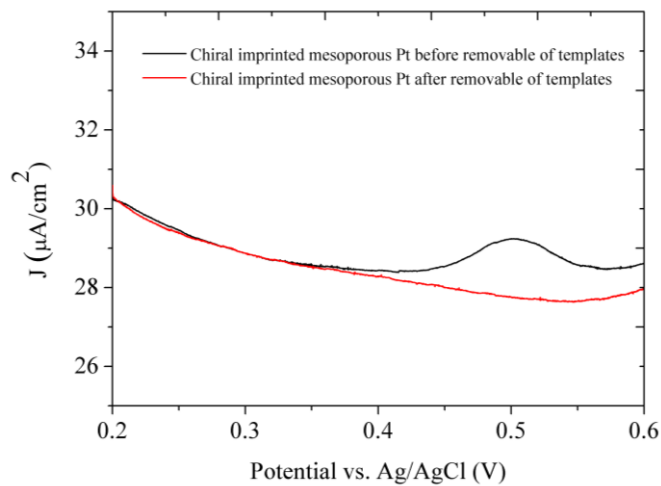
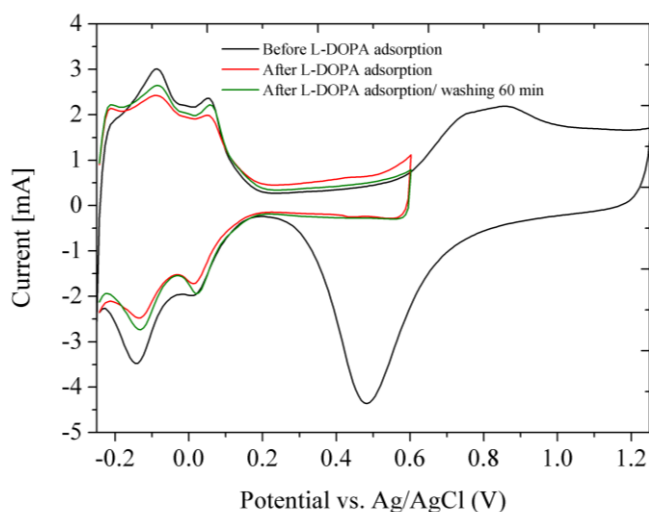


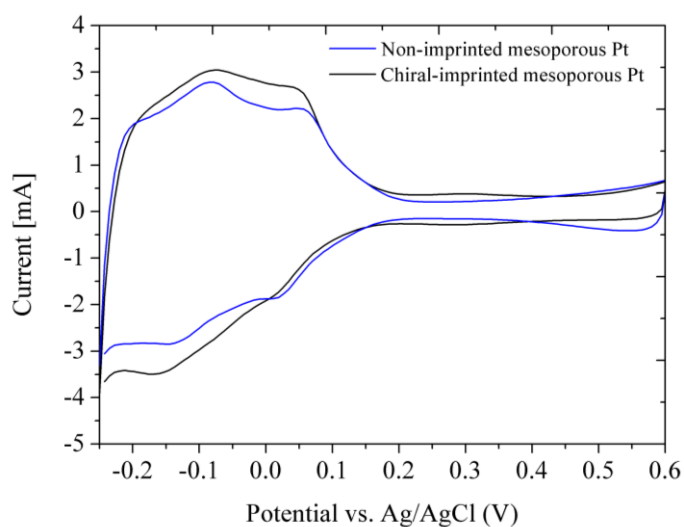
Supplementary Figure 1. DPV response of a non-imprinted mesoporous platinum electrode in a chiral probe solution (a) DPV response in 4 mM L-DOPA (blue) and D-DOPA (red) using 50 mM HCl as supporting electrolyte (pH = 1.3) with a non-imprinted mesoporous platinum electrode (b) DPV response in 50 mM HCl (pH= 1.3) containing 4 mM L-DOPA on a flat polished platinum electrode (#1) and non-imprinted mesoporous Pt (#2). J and J_b are calculated by the ratio of current to active surface area and the ratio of current to geometric surface area, respectively.



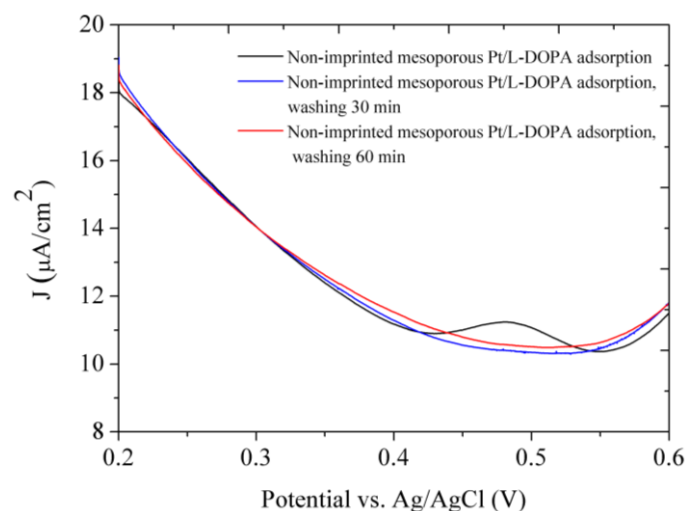
Supplementary Figure 2 Influence of adsorbed DOPA molecules on the recognition mechanism. DPV responses of L-DOPA imprinted mesoporous Pt in pure 50 mM HCl before removal of the template (black curve). The same electrode has then been washed in pure water and scanned again in HCl (red curve). This seems to exclude that possibly adsorbed DOPA molecules [1,2], which might remain in the mesoporous structure after the extensive washing, induce enantioselectivity by supramolecular diastereomeric interactions.



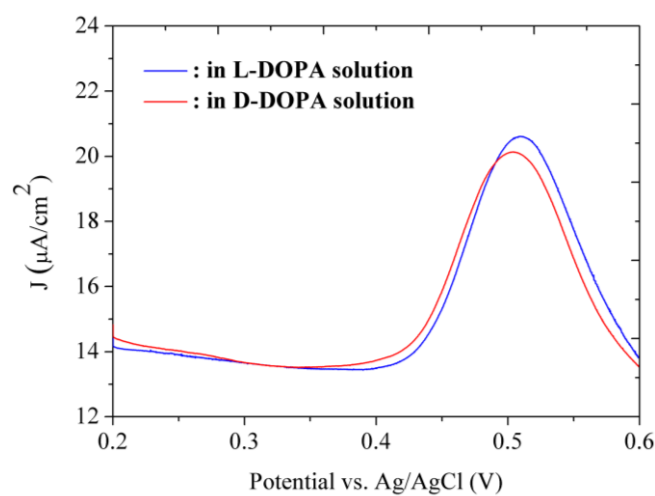
Supplementary Figure 3 Influence of adsorbed DOPA molecules on the hydrogen region. Cyclic voltammogram in 0.5M H_2SO_4 of non-imprinted mesoporous Pt before (black curve) and after the adsorption of L-DOPA by dipping it for one hour in an aqueous 1 mM solution (red curve). Rinsing in water for one hour allows gradual recovering of the hydrogen adsorption/desorption peaks (green curve), indicating a reversible character of the adsorption.



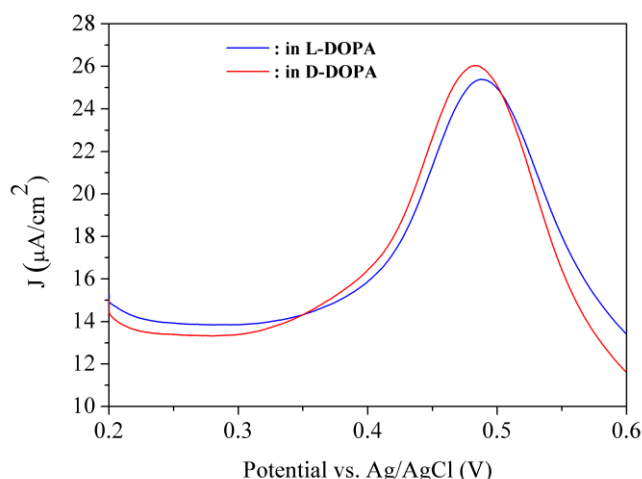
Supplementary Figure 4 Hydrogen underpotential deposition for an imprinted and a non-imprinted mesoporous electrode. Cyclic voltammogram in 0.5 M H_2SO_4 of non-imprinted mesoporous Pt (blue) and chiral imprinted mesoporous Pt (black) after washing in water overnight. The two CVs measured in H_2SO_4 are similar, suggesting that there is no major adsorption of DOPA. Both signals are not exactly matching the one of Figure 3d of the main manuscript because the latter signal has been recorded in a potential range involving the oxidation and back-reduction of the platinum, which usually leads to an activation of the electrode with much more pronounced hydrogen adsorption peaks.



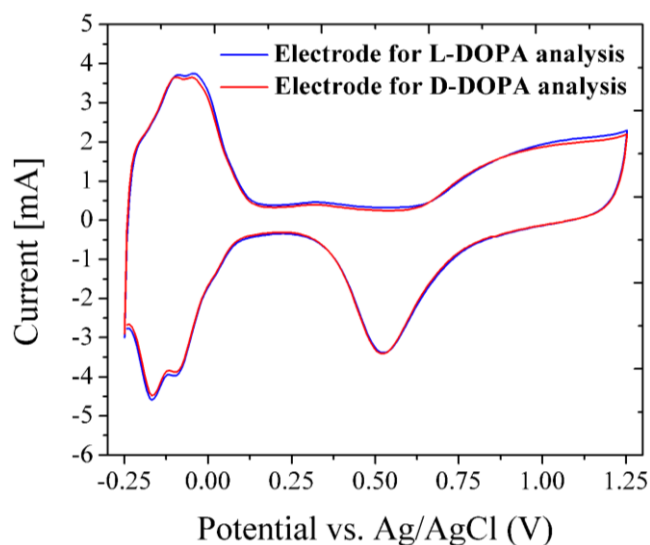
Supplementary Figure 5 Post-synthesis adsorption of DOPA on mesoporous electrodes. DPV responses of non-imprinted mesoporous Pt after adsorbing L-DOPA from a 0.1M aqueous L-DOPA solution for one hour (black curve). After washing for 30min and 60min respectively in pure water all the DOPA is desorbed (blue and red curve).



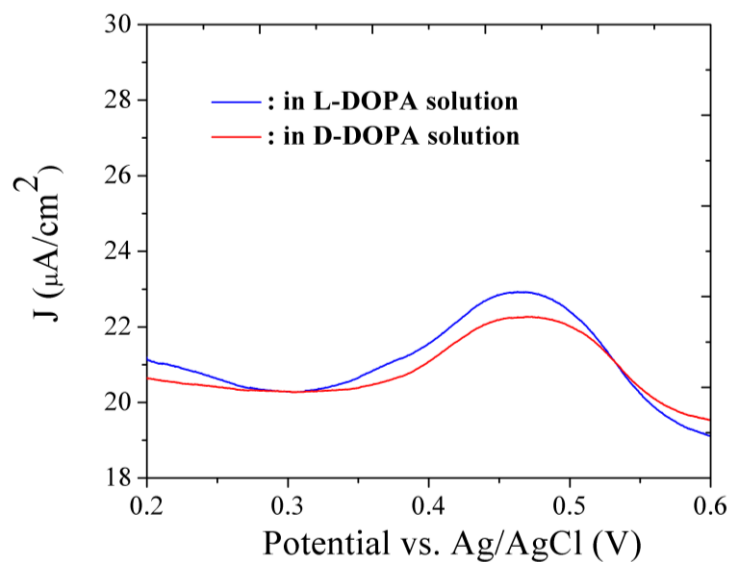
Supplementary Figure 6 Post-synthesis DOPA modified electrodes for chiral recognition. DPV responses of two non-imprinted mesoporous Pt electrodes, that had been exposed to a L-DOPA solution and then washed in pure water (see Supplementary Figure 5), recorded in 4 mM L-DOPA and D-DOPA respectively (pH=1.3, 50 mM HCl as supporting electrolyte).



Supplementary Figure 7 Post-synthesis L-dopaquinone modified electrodes for chiral recognition. DPV responses of two non-imprinted mesoporous Pt electrodes, that had been exposed to an oxidized L-DOPA solution (dopaquinone) for one hour and then washed in pure water, recorded in 4 mM L-DOPA and D-DOPA respectively (pH=1.3, 50 mM HCl as supporting electrolyte).



Supplementary Figure 8. Cyclic voltammograms for chiral imprinted platinum electrodes in sulfuric acid. Electrodes are synthesized by injecting a charge density of 2 C/cm^2 during the electroplating, and used for D-DOPA and L-DOPA analysis. Cyclic voltammograms were recorded in $0.5 \text{ M H}_2\text{SO}_4$ at 100 mVs^{-1} after the chiral recognition experiment in order to estimate the active surface area.



Supplementary Figure 9. DPV response of a chiral imprinted non-mesoporous platinum electrode in a chiral probe solution. DPV response in 4 mM L-DOPA (blue) and D-DOPA (red) using 50 mM HCl as supporting electrolyte (pH = 1.3) for a chiral imprinted non-mesoporous platinum electrode, imprinted with L-DOPA (L-DOPA/Pt = 1/25). J is the ratio of current to active surface area.

Supplementary References

1. Stern, D. A., *et al.* Studies of L-DOPA and related compounds adsorbed from aqueous solutions at platinum(100) and platinum(111): electron energy-loss spectroscopy, Auger spectroscopy, and electrochemistry. *Langmuir* **4**, 711-722 (1988).
2. Hazzazi, O. A., Attard, G. A. & Wells, P. B. Molecular recognition in adsorption and electro-oxidation at chiral platinum surfaces. *J. Mol. Catal. A: Chem.* **216**, 247-255 (2004).