# Effect of two electron mediator generation using one side coated MFI-type zeolite on ceramic tube

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Elimination of ion cross over in membrane is a key parameter in many field. The present investigation attempts to check one side MFI-type zeolite coating on a ceramic tube by two homogeneous mediators Co(Ⅲ) and $[Ni(I)(CN)_4]^{3-}$ crossover. Through the on side coated MFI-type zeolite tubular membrane, electro-generation of Co(Ⅲ) and $[Ni(I)(CN)_4]^{3-}$ were achieved by paired electrolysis and confirmed by ORP change. No metal ion crossover via one side coated MFI-zeolite ceramic membrane confirmed by UV-visible spectral analysis. The achieved Co(Ⅲ) and $[Ni(I)(CN)_4]^{3-}$ concentrations by the one side coated MFI-type membrane containing tubular cell was 57% and 15%, which are equal to the commonly used Nafion324 membrane in planar arrangement. The uncoated side ceramic tube was dissolved slowly.

Key words: one side MFI-zeolite coating, tubular membrane, tubular electrochemical cell, no-crossover