Electronic Supplementary Material (ESI) for Dalton Transactions.

Supporting Information

Selectivity Control between Mizoroki-Heck and Homo-Coupling Reactions for Synthesising Multinuclear Metal Complexes: Unique Addition Effects of Tertiary Phosphines and O_2

Yasuomi Yamazaki and Osamu Ishitani*

Department of Chemistry, Graduate School of Science and Engineering, Tokyo Institute of Technology, 2-12-1-NE-1, Ookayama, Meguro-ku, Tokyo, 152-8550, Japan

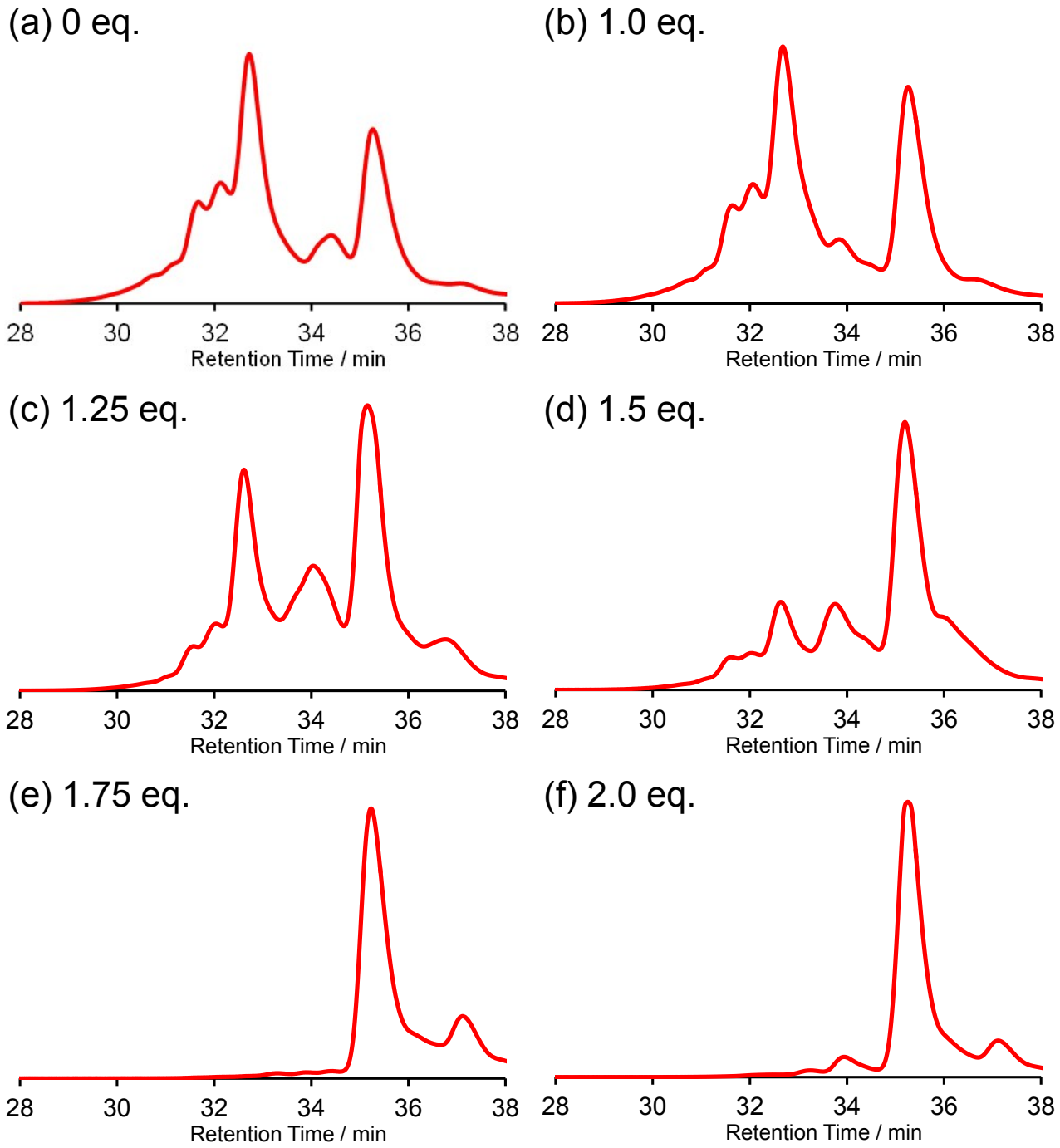

Fig. S1. Size-exclusion chromatograms measured after 3-days reaction with various amount of Sphos (**Ru**: 8 μmol, **ReBr$_2$**: 4 μmol, Pd(OAc)$_2$: 4 μmol, AcONa: 21 μmol, and Sphos: (a) 0, (b) 4, (c) 5, (d) 6, (e) 7 or (f) 8 μmol). The solvent was MeCN (1 mL).

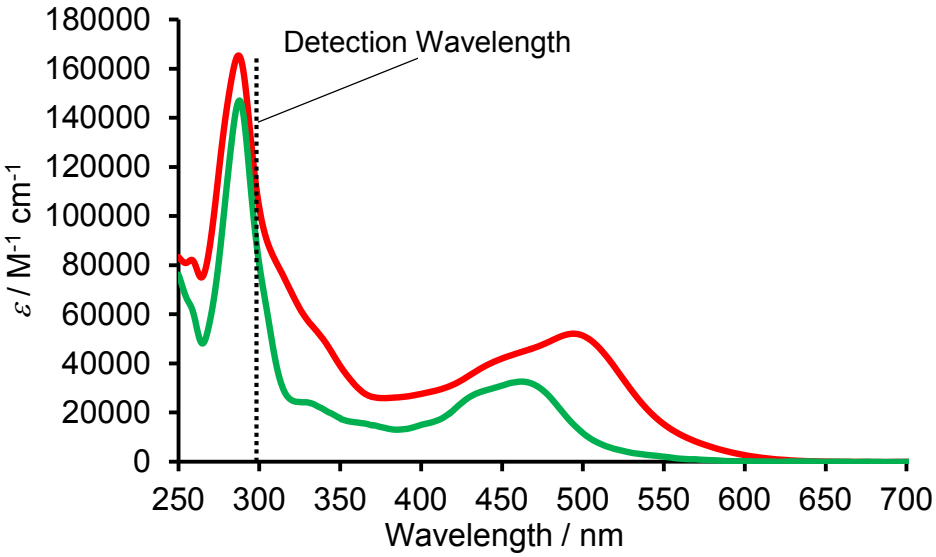

Fig. S2. Absorption spectra of **Ru_2Re** (red) and **Ru** (green) in MeCN.

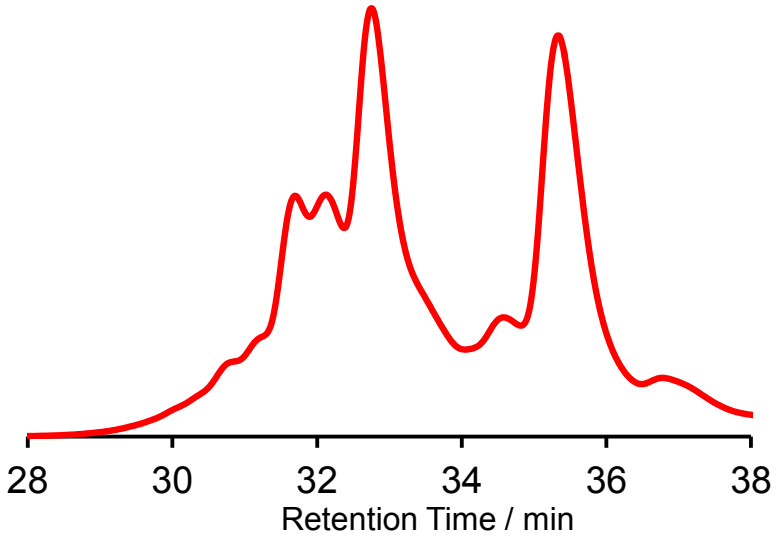

Fig. S3. Size-exclusion chromatograms measured after 3 days reaction with Sphos oxide (**Ru**: 8 μmol, **$ReBr_2$**: 4 μmol, $Pd(OAc)_2$: 4 μmol, AcONa: 21 μmol, and Sphos oxide : 8 μmol). The solvent was MeCN (1 mL).

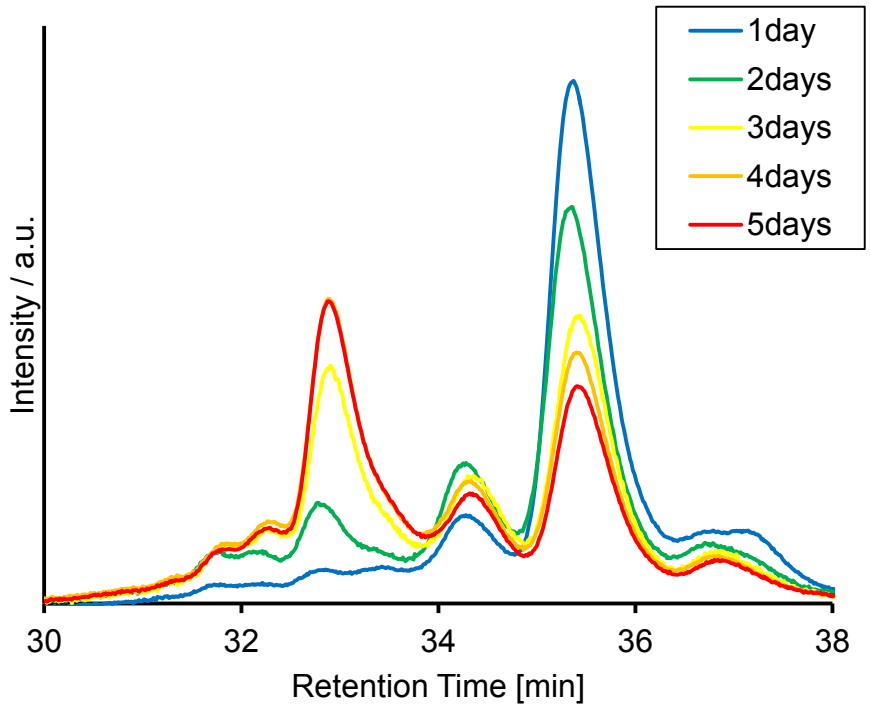

Fig. S4. Size-exclusion chromatograms of the reaction solutions hearted for 1 day - 5 days in air (**Ru**: 8 μmol, **$ReBr_2$**: 4 μmol, $Pd(OAc)_2$: 4 μmol, AcONa: 21 μmol, and Sphos : 8 μmol). The solvent was MeCN (1 mL).