Table 5.1. Comparison of Catalytic hydrogenation, Bechamp and Sulfide reduction processes for *p*-aminophenol [13].

	Catalytic hydrogenation	**Bechamp reduction**	**Sulfide reduction**
Selectivity	Broad scope with special catalytic systems e.g. Pt	Restricted scope	Broad scope
Synthetic potential	Broad	Broad	Narrow
Combination with other reactions	Possible	Not possible	Not possible
Starting material	Sensitive to catalyst poisons	Robust	Very Robust
Reaction medium	Organic solvents and aqueous media	Aqueous media	Aqueous media
Reaction conditions	10-100 % v/v 20-150°C	10-25 % v/v 80-100°C	10-40% 30-160°C
Reaction characteristics	Heat removal 560 kJ mol^{-1} catalyst separation	Heat removal ca 280 kJ mol^{-1} Separation of large amounts of solid	Separation of (Soluble) oxidized sulfur compounds
Reactors	High pressure reactors and equipment	Standard stirred tank (acid resistant)	Standard stirred tank
Safety	Handling of hydrogen and pyrophoric catalysts Accumulation of thermally unstable intermediates	Formation of hydrogen possible	Formation of H_2S
Ecology	Environmentally friendly No critical wastes	Disposal of Fe sludge Large amounts of waste water	Large amounts of waste water

As can be seen from the Table 5.1, the catalytic hydrogenation method is the most adaptable, effective, economical and ecological method for the reduction of aromatic